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ABSTRACT

The report summarizes the state of U.S. education, presents statistics for the school years 1970-1972, considers educational organization and administration, and focuses on secondary education's role in training and employment. The report is offered in English, French, Spanish and Russian. Achievement and reform, which are said to mark the state of education, are discussed in relation to growth in services, educational approach, school finance, post secondary education, and the teaching of reading. Textually and tabularly presented statistics are given for enrollment, teachers, graduates, school retention rates, educational attainment, and public school income/expenditures. Educational organization and administration are described in terms of federal and state responsibility, educational structure, and experimental approaches such as the multiunit plan, modular scheduling, open and free schools, and schools without walls. The concept of career education which is aimed at reducing the number of students who leave high school without preparation for employment is emphasized as part of the secondary school's current role in training and employment. Appended are a list of references as well as summaries of the education amendments of 1972 which pertain to higher education, new administration programs, and emergency school aid. (MC)

PROGRESS OF EDUCATION IN THE UNITED STATES OF AMERICA 1970-71 1971-72

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PROGRESS OF EDUCATION IN THE UNITED STATES OF AMERICA: 1970-71 AND 1971-72

Report for the Thirty-Fourth International Conference on Education,
Sponsored by the United Nations Educational, Scientific, and Cultural Organization,
International Bureau of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Foreword

This report is the most recent in the series prepared for the International Conference on Public Education that has been held in Geneva, Switzerland, since 1934 under the auspices of the International Bureau of Education (IBE), now a part of UNESCO.

Part I provides a brief summary of the state of education in the United States today with emphasis on achievement and reform, currents and cross currents. This material has been excerpted and adapted from the U.S. Commissioner of Education's Annual Report to the Congress, March, 1973.

Part II contains statistics on American education compiled by the Office of Education, National Center for Educational Statistics. The material covers the 1971–72 school year, the most recent full year for which figures were available at the time this report went to press, as well as some enrollment data for the fall semester, 1972. The tables also contain data from earlier years to indicate trends or comparisons.

Part III presents basic background information on the organization and administration of education in the United States.

Part IV focuses on the current role of secondary education in training and employment, with special emphasis on the concept of *career education* and the Federal involvement in its development and implementation concept.

The appendix includes a succinct summary of the highlights of one of the most extensive and significant pieces of Federal education authorizing legislation in the Nation's history, the Education Amendments of 1972.

This report is made available in English, French, Spanish, and Russian languages. The various language versions are useful not only to the representatives of the 130 Member States of UNESCO who may attend the IBE conference in Geneva, but also to the hundreds of visitors from abroad who seek information from the Office of Education annually. The various language versions have also proven of value to many of the non-English speaking educators and policymakers in other countries who are interested in educational development in the United States.

ROBERT LEESTMA

Associate Commissioner
for International Education

President Richard Nixon
on the Federal Responsibility
to Education (Broadcast live
on radio, October 25, 1972)

. . . The kind of schooling we provide for our young people today will play a major role in determining the kind of country we will have well into the next century.

. . . I will continue to work to make the Federal Government's role in education a positive, productive one, and to give to the people and their locally elected representatives the means with which they can play a larger role in improving education.

By seeking this basic goal together, we can build a system that brings a quality education and full opportunity to all Americans.

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I. The State of Education in the Nation[1]

Achievement and Reform

Education in the United States today presents a simultaneously heartening and frustrating study of unparalleled accomplishment admixed with unresolved difficulty.

Graduation from high school is so nearly universal that it is easy to forget that as recently as 40 years ago only three youngsters out of 10 earned a diploma. College entrance has become almost as commonplace.

School teachers are better trained; 97 percent of them now hold at least a bachelor's degree.

Students are on the whole more advanced. Youngsters in many high schools are tackling science and mathematics at levels that only a few years ago were considered difficult for college people.

A dismaying number of students, however —particularly the children of poor and racially isolated parents living in a decaying inner city or rural slum—are still not receiving an adequate education.

This is not quite the same as to say that the schools are failing. They are succeeding, at least within the sense that they are seeking to educate youngsters who in earlier days would not have been in a classroom in the first place.

Similarly, a dismaying number of poor and racially isolated youths are still denied the opportunity for education beyond high school. But this is not to say, either, that the colleges and universities—or the vocational and technical institutes that are part of our postsecondary system—are failing. If only in the sense that they are enrolling many youngsters who a few years ago would never have seen the inside of a college classroom, they too are succeeding.

The educational system continues to serve a large proportion of U.S. children and young adults. A greater proportion of the youngest children are entering kindergarten than ever before (82.5 percent of all 5-year olds in 1971 as compared to 66.3 percent in 1961). A higher proportion of 17-year olds now complete 12 years of schooling (76 percent in 1972 as compared to 69.5 percent in 1962). Greater numbers and a higher percentage of high school graduates enroll in college and other postsecondary institutions (59 percent in 1972 as compared with 54 percent in 1962), although it should be noted that the percentage has decreased slightly over the past several years (from 61 percent in 1970). Similarly, U.S. colleges and universities are now producing more graduates with bachelor's, master's, and Ph.D. degrees. From 1961 to 1971, the number of bachelor's degrees doubled; the number of master's degrees almost tripled; and the number of Ph.D. degrees more than tripled. In fact, the United States is temporarily experiencing problems arising from excessive numbers of Ph.D.'s in certain fields.

Our educational enterprise is also far more accessible. Increased academic opportunity has been extended for the first time in our history to large numbers of black and Span-

[1] This chapter is excerpted and adapted from "Education Today: A Progress Report"—Chapter 1 of the U.S. Commissioner of Education's *Annual Report to Congress*, March 31, 1973.

ish-speaking people. The growth is particularly noteworthy at higher education levels.

Curriculums from elementary through graduate school are more varied, more intensive, and of higher quality. Course content has had to be frequently updated to take into account the explosion in knowledge. The constant search for innovation and new instructional technology has promoted better teaching methods in many school systems. Student and community unrest and the cry for "relevancy" have promoted greater sensitivity to student needs.

The question remains: Is this kind of success enough? To a large degree it is the result of Federal laws enacted at various times of crisis extending over some 20 years, principally the past 10. Enacted as they were to meet the crisis of a moment, few of these laws bear any coordinated relationship to one another. Moreover, the crises that gave birth to some of them have long passed or diminished in severity, and many of the laws have outlived their usefulness. And some laws, on sober reexamination, now appear to have taken the wrong tack in the first place; they have not been as successful as originally hoped in solving some of the problems they were aimed at.

Other programs, to be sure, have worked out remarkably well. It is, nevertheless, the view of this Administration that it is time to assess *all* Federal education programs, to modify those that would succeed better with modification, to discard those that will clearly never meet their purpose, at least not at any reasonable cost, to apply more resources to successful ones, and to create new ones to meet remaining needs. Fiscal realities make it even more necessary at this time to examine the value received for every Federal dollar spent for education—as with every Federal dollar spent for any purpose.

Considerations like this have been shaping and honing the ideas of this Administration since its earliest days. Many of the resultant conclusions were transformed into law in the Education Amendments of 1972,[2] passed by the Congress and signed by the President on June 23.

Currents and Cross Currents

The overall strength of our schools and colleges on the one hand and their frustration on the other are among the most striking currents in American education as the Nation heads for the 200th anniversary of its founding. In an enterprise as large and diverse as education, involving more than a third of the entire population, the list of these currents could be extended almost infinitely. The following are especially deserving of note:

Equal educational opportunity.—Inequality of opportunity not only holds its position as probably the most complicated and difficult challenge facing American education but has taken on new dimensions of complexity.

Particularly in aspects of racial isolation, it is fair to say that progress is being made.

[2] Public Law 92-318. See appendix, pp. 51-62, for "Highlights of the Education Amendments of 1972."

According to records of the U.S. Department of Health, Education, and Welfare's Office for Civil Rights, the percentage of black students enrolled in all-minority schools has dropped from about 40 percent in 1968 to a current level of a little over 11 percent. There has been a concurrent movement toward refocusing classrooms to embrace the heritage of students whose native language is not English. There are increasing numbers of bilingual programs for Spanish-speaking youngsters and multicultural programs for all youngsters, extending the learning process to include Afro, Hispanic, Indian, and other heritages and thus give the full flavor of the emerging American society. In schools such as those receiving support under emergency school assistance programs, individual school districts in all parts of the Nation are going through the desegregation process with a minimum of dislocation.

Deep and potentially divisive problems nevertheless remain, symbolized by the controversy over "busing," a system of transporting students across school or other jurisdictional boundaries to meet the constitutional requirements to desegregate the schools. Whether new directions toward a solution of this issue will emerge from decisions of the U.S. Supreme Court remains to be seen.

Another element that has enormously broadened the equal opportunity issue is women's rights. After decade upon decade of being accorded something less than first-class citizenship, both as students and as members of school and college staffs, women are obtaining just and equitable treatment. Their demands for an end to discrimination by sex have now been sustained in Federal law.

Change.—A deep ferment pervades education in the United States today, an earnest striving for constructive change at all levels. This mood is evidenced at the elementary-secondary level by such innovations as the "informal" classroom, nongraded classes, independent study programs, and a team approach to teaching; and in higher education by such experiments as the "university without walls," which frees the student to have a hand in developing his own curriculum, to stretch across the boundaries that conventionally separate the colleges within a university, and to supplement his academic pursuits by turning to resources within the community.

There is greater awareness of education's responsibilities for developing an environmentally literate society, new initiatives toward capitalizing on the potential of technology, an accelerated movement toward bringing handicapped boys and girls into education's main stream, a more intensive effort to build close and constructive relationships between the school and the local community, a recognition that frequently citizens can play a valuable role in the classroom in a paraprofessional capacity. The search for better ways will know its disappointments as well as its triumphs, but the spirit behind that search is a guarantee that American education will remain vigorous and creative.

Career Education.—What began as a call to reexamine the purposes of education in terms of the practical interests of students —and of our society—has now taken on the

dimensions of a national movement. The call came from Sidney P. Marland, Jr., then the 19th U.S. Commissioner of Education and now the Assistant Secretary for Education in the U.S. Department of Health, Education, and Welfare. The need for reexamination was made evident, Dr. Marland noted, by the record. Each year on the order of 2.5 million young people conclude their formal schooling—perhaps with a high school diploma, perhaps by simply dropping out of school or college—with no preparation for a job. To this dilemma add the human and financial waste—it costs about $12,000 to send a youngster through elementary and high school—represented by the young people who drift through their studies without plan or purpose, ungripped by education because they do not connect it with "real" life.

The career education concept aims at refocusing the learning process at all levels by blending a mutually supportive combination of academic and occupational goals. Launched by the Office of Education (OE) and now under the direction of the newly created National Institute of Education, a number of federally supported career education research projects are now going forward. Meanwhile individual school districts and colleges across the Nation have set out on their own with OE encouragement to readjust their curriculums so as to encompass the goal of making sure that every student leaves the classroom with a marketable skill.

School finance.—A long-building discontent with the way schools are financed in the United States has triggered a move for reform likely to have heavy repercussions in every State in the Nation. The overall issue is composed of several interlacing issues, each in itself presenting difficult and perplexing questions. In reviewing the situation, as good a place as any to start is the practical matter of steadily increasing outlays for the schools. During the decade of the 1960's total costs for public elementary and secondary education more than doubled, rising (in terms of 1971–72 dollars) from about $22 billion in 1960 to $45 billion in 1970.

In accordance with the long-standing pattern by which public education is financed, the burden of meeting these additional costs has fallen to property owners and, indirectly, renters, since the single most important source of school funds is the property tax.

One result is what many have interpreted as being a taxpayers' revolt, signalled by a growing trend toward negative votes in school bond referendums.

Equally strenuous objections have come from citizens who claim that reliance on the property tax as the basic instrument of school financing is inherently inequitable, that it makes the quality of a youngster's education dependent chiefly on the accident of where he happens to live, in a poor or wealthy school district. A suit filed by a group of San Antonio, Tex., parents contending that such reliance is in fact unconstitutional reached the U.S. Supreme Court, which ruled against the parents, leaving it up to State legislatures to change school financing methods if they wish.

Though alteration of the present system would affect millions of children and thou-

sands upon thousands of legal jurisdictions, the Nation is not unprepared to face up to the enormous complications that would without question ensue. Many months prior to the first legal finding on the school finance issue, by the California Supreme Court, the President had called for a number of studies into the facts involved. Further, the OE-sponsored study, *Future Directions for School Financing*, came to fruition at about the time of the California decision. Additional explorations have been under way by a special internal Office of Education task force.

A fundamental question involved in school finance is the difficult situation of the nonpublic schools, whose costs have risen at least as sharply as those of the public schools. Since support of these schools comes almost altogether from tuition, the only clear way for them to meet their rising costs has heretofore been to raise tuition. The result has been that many parents, because they are unable to pay more, and for other reasons, have sent their children to public school, thus directing still more income away from the nonpublic school.

Postsecondary education.—The Nation's colleges and universities are currently going through an unprecedented period of reform and renewal. Some of the stimulus for reformation has been imposed by the sheer pressure of economics—illustrated by the great disparity between what students pay for their college education and what the institution must spend to provide it. Equally important, however, is the recognition by the colleges and universities themselves that renewal is the only alternative to obsolescence in a period when tradition cannot withstand the pressure of far-reaching changes in human values and social needs.

The financial pressure is heavy, pervasive, and in some places of crisis proportions. A few colleges are foundering and many are cutting back on their services. But many more are finding new strength by recognizing what friendly critics have long contended—that efficiency has not been a common characteristic among institutions of higher learning. The moves now under way toward improving the situation—through such steps as the more effective and intensive use of facilities, installation of more modern administrative procedures, and the development of more efficient organizational arrangements—will not by themselves solve postsecondary education's financial problems.

The reexamination now under way does indicate, however, that the colleges and universities are determined to take a practical, realistic view of their operations and to face up to extensive revisions of customary ways of doing things.

Meanwhile the colleges and universities are engaged in a drive for renewal that is changing the face of postsecondary education throughout the Nation. Individual institutions and prestigious study groups alike are reexamining the basic purposes of higher education and its role in the American society. From these various explorations have emerged a number of common themes. There is a conviction that postsecondary education must be opened to new and different kinds of people, including those not previously

thought of as "college material" and those beyond the usual college age. There is a search for greater flexibility—new kinds of institutions, different approaches to instruction, forms of internal organization that break out of the mold of the tradi ional disciplines. There is a move toward greater institutional diversity, providing opportunities not tied to a standard course of study or to a particular campus, or for that matter to a campus at all. There is a determination to see learning as a lifelong process, with students moving in and out of higher education as they see fit and as their needs dictate. And there is a drive—spurred by the career education concept and by the fact that about half of all college students drop out before getting a degree—to reestablish a useful and harmonious relationship between academic pursuits and preparation for the practical necessity of earning a living.

The ferment on college campuses associated with demonstrations and disruption has just about disappeared now, but in its place has come a concern for constructive and valid change whose impact on postsecondary education gives every sign of being basic and lasting.

Reading.—Few aspects of the day-to-day school operation come under closer scrutiny by parents than their children's achievements in education's basics, and most particularly reading. Rightly so, for the ability to read is the key determinant of a youngster's success or failure in all other subjects. It has become fashionable to assume that virtually all children read poorly and that the schools have somehow lost the ability to teach them. Not so—judging by findings of an extensive sampling of reading skills among young people in four age groups made last year as part of the continuing National Assessment of Education Progress. Said Assessment officials: "The reading performance of young Americans exceeded noticeably the levels anticipated by the reading specialists who developed the exercises." The performance of a proportion of these young people, on the other hand, was substandard—and not unexpectedly, for authoritative evidence suggests that something in the order of 7 million elementary and secondary school students, many of them concentrated in the large cities, are burdened by reading problems that many schools seem unable to solve. To these boys and girls add the nearly 19 million adults whose ability to read is so meagre that they cannot function effectively as self-supporting citizens.

The plight of the nonreader cannot properly be ascribed to incompetent teachers or to a lack of knowledge of teaching techniques that work with most students, as the results of the National Assessment bear out. The problem would instead seem to consist of the need, first, to identify teaching methods that are effective with youngsters who do not respond to traditional approaches, and, second, to give reading the high priority it deserves on the school agenda.

The promotion of reading as the top concern on education's agenda and the identification of teaching techniques adapted to the laggard reader are essential elements of the national Right-To-Read program, which now has some 240 projects underway—some

in schools, some in community centers—aimed at establishing methods and materials that are specifically successful with boys and girls (and adults) who are immune to standard school fare. Equally significant for the long term, Right To Read has brought reading into the spotlight. Special reading programs have been launched in most States and in local communities in all sections of the Nation, some with Federal support, some without it.

It is a basic thesis of the Right-To-Read campaign that, except for that proportion of the population considered uneducable, virtually every youngster can learn to read well if he is offered approaches tailored to his specific needs and strengths. The drive underway now to prove that proposition represents one of the major challenges of the 1970's.

In summary.—The remarkable overall strength of American education, the continuing search for successful methods of teaching disadvantaged youngsters, the pervasiveness of change, the spreading impact of the career education concept, the school finance situation, the renewal of higher education, and the heavy emphasis on reading—these are some of the major currents affecting our schools and colleges today. American education continues to be on the move and the movement is forward.

II. Statistics on Education

An Overview

Education was the primary occupation of 62.8 million people in the United States in fall 1972. Included in this total were 59.5 million students enrolled in the Nation's schools and colleges, nearly 3 million teachers, and about 300,000 superintendents, principals, supervisors, and other instructional staff members. This means that, in a country with a population of 209 million, approximately 3 out of every 10 persons were directly involved in the educational process.

The expenditures of educational institutions totaled approximately $84 billion during the school year 1971–72. Increased support for education in recent years has come from Federal, State, and local governments, as well as from a variety of private sources.

Enrollment

In fall 1972, enrollment in educational institutions in the United States remained relatively stable after annual increases for 27 consecutive years. The number of students in public and nonpublic institutions at all educational levels totaled 59.5 million, as shown in table 1, nearly 0.2 million less than the year before. Increases in enrollment at the secondary and higher education levels were offset by a small decline in elementary school enrollment. The decrease at the elementary level may be attributed to a reduction in the number of children in the 5 to 13 age group. Small annual reductions in elementary school enrollment are expected for the next several years because fewer young children will be reaching school age.

Since the end of World War II there has been a trend in this country for more and more persons to enter the educational system at an earlier age and to remain in school for a longer period of time than did their older brothers and sisters. This trend is illustrated most dramatically in table 2 where the latest available data on the percentage of 5-year-olds and teenagers enrolled in school are compared with the percentages one and two decades earlier. More than 8 out of every 10 5-year-olds attended school in 1971 as compared with 6 to 7 in the early 1960's and about 5 at the beginning of the 1950's. More than 90 percent of the 16- and 17-year-olds are now enrolled in school. This may be compared with almost 84 percent in 1961 and 75 percent in 1951. Approximately one-half of the 18- and 19-year-olds are presently in school, as contrasted with three-eighths of their counterparts in 1961 and one-fourth in 1951. Although there is some vacillation in the nearly total percentage of children aged 7 to 9 enrolled in school, every age group over 16 or 17 to age 34 shows a marked increase.

Another indication of the same phenomenon is provided by table 3, which shows the growth of secondary education in the United States. From 1890 to 1971, while the population 14 to 17 years of age tripled, enrollment in grades 9 through 12 increased 42 times. In 1890 only about 1 person in 15 in the 14 to 17 age group was enrolled in school; in 1971 the figure was well over 9 out of 10.

For more than half a century the Federal Government has assisted State and local gov-

ernments in providing vocational education programs. In recent years new programs have been added to the traditional classes in agriculture, home economics, and trades and industry, and the number of participants has increased at a rapid rate. Table 4 shows that more than 10.5 million students were enrolled in federally aided vocational classes in 1971.

Teachers

The number of elementary school teachers has stabilized for the moment, but the number of teachers at the secondary and higher education levels continues to grow each year. Almost 3 million teachers, the largest number ever employed in any 1 year, were giving classroom instruction in the fall of 1972, as can be seen in table 5.

In recent years the number of public elementary and secondary school teachers has risen at a faster rate than the number of pupils enrolled. Consequently, there has been a slight decline in the number of pupils per teacher. As table 6 indicates, there were 22.3 pupils per teacher in the fall of 1971 as compared with 24.1 pupils per teacher 5 years earlier.

Graduates

Paralleling recent increases in school enrollment is a corresponding rise in the number and proportion of persons graduating from high school and college. Table 7 indicates that, as recently as 1890, only 3.5 percent of our young people were graduating from high school. That year may be compared with the year 1971, when there were more than 2.9 million graduates, a number equal to 76 percent of the 17-year-olds in the population. At the college level the contrast is even greater: The number of bachelor's degrees conferred in 1971 was more than 56 times as great as in 1890, and the number of master's and doctor's degrees both increased more than two hundredfold, as seen in table 8.

The number of earned degrees conferred by institutions of higher education in the year ending in June 1971 is shown in table 9. At the bachelor's level more degrees were conferred in education, social sciences, and business and management than in any other field. A substantial number of bachelor's degrees were also conferred in languages and literature (both English and foreign languages), biological and physical sciences, engineering, fine and applied arts, and mathematics. The leading fields in terms of the number of master's degrees conferred were education, business and management, social sciences, and engineering. More than 3,000 doctor's degrees were conferred in each of 5 fields: Education, physical sciences, social sciences, biological sciences, and engineering.

School Retention Rates and Educational Attainment

Table 10 shows the increase in school retention rates from the fifth grade through college entrance over the past 40 years. Dur-

ing this time the proportion of fifth graders who went on to graduate from high school increased 2½ times: about 75 percent of former fifth graders graduated from high school in 1970, as compared with 30 percent in 1932. The increase in college attendance is even more striking: approximately 46 percent of the young people now enter college; in the early 1930's the comparable figure was 12 percent.

Since 1940, the U.S. Bureau of the Census has collected statistics on the number of school years completed by persons in the United States. (Demographers have used data from early census surveys to estimate the number of school years completed in 1910, 1920, and 1930.) Table 11, which is derived from census publications, compares the educational attainment of the population 25 to 29 years of age with the total population 25 years of age and over. The former group in March 1972 had completed one-half year of school more than had the total adult population. Approximately 80 percent of the 25 to 29 age group were high school graduates, as compared with only 58 percent of all adults. Almost 20 percent of the persons in their middle and late twenties were college graduates, while only 12 percent of the entire adult population had completed 4 years of college.

Only 1.0 percent of the persons 14 years of age and over were illiterate in 1969, according to a sample survey conducted by the U.S. Bureau of the Census, from which table 12 derives. This illiteracy rate may be compared with 2.5 percent in 1952, 4.3 percent in 1930, and 10.7 percent in 1900. Thus the 20th century has seen a steady reduction in the percentage of persons in the United States who are unable to read and write.

Income

Public elementary and secondary schools in the United States derive virtually all their revenue from governmental sources. Income from other sources, such as gifts and fees, amounts to less than one-half of 1 percent of the tota' revenue receipts. Local governments contribute more than any other source, but in recent years the proportions from the Federal and State governments have been increasing. In the school year 1969–70 approximately 52 percent of the revenue receipts of public schools came from local sources, 40 percent from State governments, and 8 percent from the Federal Government, as can be seen in table 13. While revenue receipts have continued to increase since 1970, preliminary data indicate that the distribution by source of funds has changed very little in the past 2 or 3 years.

Although State and local governments have primary responsibility for public education in the United States, the Federal Government for many years has maintained an active interest in the educational process. Recently an increasing amount of Federal support for all educational levels has been provided through a variety of programs administered by various Government agencies. Federal grants supporting education, in all educational institutions, for example, more than tripled between 1965 and 1971. Table 14 presents a summary of Federal funds for ed-

ucation, training, and related activities during the past 2 years.

Expenditures

Table 15 shows that expenditures for public elementary and secondary education in the United States amounted to $40.7 billion during the school year 1969–70 and to an estimated $48.5 billion in 1971–72. The total annual expenditure per pupil in average daily attendance rose from $970 in 1969–70 to an estimated $1,091 in 1971–72. The expenditure per pupil has more than doubled in the past decade, although in constant dollars the increase was only by about 50 percent.

According to the latest available figures on expenditures by purpose, public schools are expending approximately 57 percent of their funds for instruction and 11 percent for capital outlay. The remaining 32 percent is spent for a variety of purposes, including administration, plant operation and maintenance, fixed charges, other school services, and interest on school debt.

Table 16 compares total expenditures for all levels of public and private education in the United States with the gross national product over the past four decades. Educational expenditures are estimated at $83.8 billion for the school year 1971–72, an amount equal to 8.0 percent of the gross national product. In relation to the gross national product, expenditures today are more than 4 times as great as they were during the midforties, and they tend to rise each year.

Expenditures for vocational education from Federal, State, and local funds are shown in table 17. In 1970–71, the Federal Government contributed 17 percent of the money for vocational education, while State and local governments made up the remaining 83 percent. Total governmental expenditures for vocational education nearly doubled between 1967–68 and 1970–71.

Table 1.—Estimated enrollment in educational institutions, by level of instruction and by type of control: United States, fall 1971 and fall 1972 [1]

[In thousands]

Level of instruction and type of control	Fall 1971	Fall 1972
1	2	3
Total elementary, secondary, and higher education	59,707	59,530
Public	52,335	52,260
Nonpublic	7,372	7,270
Kindergarten-grade 12 (regular and other schools)[2]	51,591	51,310
Regular public schools	46,081	45,900
Regular nonpublic schools	5,200	5,100
Other public schools	240	240
Other nonpublic schools	70	70
Kindergarten-grade 8 (regular and other schools)[2]	36,365	35,800
Regular public schools	32,265	31,800
Regular nonpublic schools	3,900	3,800
Other public schools	170	170
Other nonpublic schools	30	30
Grades 9–12 (regular and other schools)[2]	15,226	15,510
Regular public schools	13,816	14,100
Regular nonpublic schools	1,300	1,300
Other public schools	70	70
Other nonpublic schools	40	40
Higher education (total degree-credit enrollment in universities, colleges, professional schools, teachers colleges, and junior colleges)[3]	8,116	8,220
Public	6,014	6,120
Nonpublic	2,102	2,100
Undergraduate[4]	7,208	7,290
Graduate	908	930

[1] The 1971 figures for regular nonpublic and other elementary and secondary schools, and all 1972 figures, are preliminary estimates. Surveys of nonpublic elementary and secondary schools have been conducted at less frequent intervals than those of public schools and of institutions of higher education. Consequently, the estimates for nonpublic schools are less reliable than those for other types of institutions. The estimates for 1972 are derived from changes in the school-age population combined with the long-range trend in school enrollment rates of the population.

[2] "Regular" schools include schools which are a part of State and local school systems and also most nonprofitmaking nonpublic elementary and secondary schools, both church-affiliated and nonsectarian. "Other" schools include subcollegiate departments of institutions of higher education, residential schools for exceptional children, Federal schools for Indians, and Federal schools on military posts and other Federal installations.

[3] Excludes undergraduate students in occupational programs which are not ordinarily creditable toward a bachelor's degree. There were approximately 833,000 of these nondegree-credit students in fall 1971.

[4] Includes students working toward first-professional degrees, such as M.D., D.D.S., LL.B., and B.D. Approximately 193,000 students were in this category in fall 1971.

Note.—Fall enrollment is usually smaller than school-year enrollment, since the latter is a cumulative figure which includes students who enroll at any time during the year.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Fall 1971 Statistics of Public Schools; Fall Enrollment in Higher Education, 1971;* and estimates of the National Center for Educational Statistics, Office of Education.

Table 2.—Percent of the population 5 to 34 years old enrolled in school, by age; United States, October 1947 to October 1971

Year	Total, 5 to 34 years	5 years[1]	6 years[1]	7 to 9 years	10 to 13 years	14 and 15 years	16 and 17 years	18 and 19 years	20 to 24 years	25 to 29 years	30 to 34 years
1	2	3	4	5	6	7	8	9	10	11	12
1947	42.3	53.4	96.2	98.4	98.6	91.6	67.6	24.3	10.2	3.0	1.0
1948	43.1	55.0	96.2	98.3	98.0	92.7	71.2	26.9	9.7	2.6	.9
1949	43.9	55.1	96.2	98.5	98.7	93.5	69.5	25.3	9.2	3.8	1.1
1950	44.2	51.8	97.0	98.9	98.6	94.7	71.3	29.4	9.0	3.0	.9
1951	45.4	53.8	96.0	99.0	99.2	94.8	75.1	26.3	8.3	2.5	.7
1952	46.8	57.8	96.8	98.7	98.9	96.2	73.4	28.7	9.5	2.6	1.2
1953	48.8	58.4	97.7	99.4	99.4	96.5	74.7	31.2	11.1	2.9	1.7
1954	50.0	57.7	96.8	99.2	99.5	95.8	78.0	32.4	11.2	4.1	1.5
1955	50.8	58.1	98.2	99.2	99.2	95.9	77.4	31.5	11.1	4.2	1.6
1956	52.3	58.9	97.0	99.4	99.2	96.9	78.4	35.4	12.8	5.1	1.9
1957	53.6	60.2	97.4	99.5	99.5	97.1	80.5	34.9	14.0	5.5	1.8
1958	54.8	63.8	97.3	99.5	99.5	96.9	80.6	37.6	13.4	5.7	2.2
1959	55.5	62.9	97.5	99.4	99.4	97.5	82.9	36.8	12.7	5.1	2.2
1960	56.4	63.7	98.0	99.6	99.5	97.8	82.6	38.4	13.1	4.9	2.4
1961	56.8	66.3	97.4	99.4	99.3	97.6	83.6	38.0	13.7	4.4	2.0
1962	57.8	66.8	97.9	99.2	99.3	98.0	84.3	41.8	15.6	5.0	2.6
1963	58.5	67.8	97.4	99.4	99.3	98.4	87.1	40.9	17.3	4.9	2.5
1964	58.7	68.5	98.2	99.0	99.0	98.6	87.7	41.6	16.8	5.2	2.6
1965	59.7	70.1	98.7	99.3	99.4	98.9	87.4	46.3	19.0	6.1	3.2
1966	60.0	72.8	97.6	99.3	99.3	98.6	88.5	47.2	19.9	6.5	2.7
1967	60.2	75.0	98.4	99.4	99.1	98.2	88.8	47.6	22.0	6.6	4.0
1968	60.0	74.9	98.3	99.1	99.1	98.0	90.2	50.4	21.4	7.0	3.9
1969	60.0	76.2	98.2	99.3	99.1	98.1	89.7	50.2	23.0	7.9	4.8
1970	58.9	77.7	98.4	99.3	99.2	98.1	90.0	47.7	21.5	7.5	4.2
1971	58.5	82.5	98.4	99.1	99.2	98.6	90.2	49.2	21.9	8.0	4.9

[1] Includes children enrolled in kindergarten, but excludes those enrolled in nursery schools.
Note.—Data are based upon sample surveys of the civilian noninstitutional population.
SOURCE: U.S. Department of Commerce, Bureau of the Census, "Current Population Reports," Series P-20; and U.S. Department of Health, Education, and Welfare, Office of Education, circulars on "Preprimary Enrollment."

Table 3.—Enrollment in grades 9-12 in public and nonpublic schools compared with population 14-17 years of age; United States, 1889-90 to fall 1971

School year	Enrollment, grades 9–12 and postgraduate [1]			Population 14–17 years of age [2]	Total number enrolled per 100 persons 14–17 years of age
	All schools	Public schools	Nonpublic schools		
1	2	3	4	5	6
1889–90	359,949	[3] 202,963	[3] 94,931	5,354,653	6.7
1899–1900	699,403	[3] 519,251	[3] 110,797	6,152,231	11.4
1909–10	1,115,398	[3] 915,061	[3] 117,400	7,220,298	15.4
1919–20	2,500,176	[3] 2,200,389	[3] 213,920	7,735,841	32.3
1929–30	4,804,255	[3] 4,399,422	[3] [4] 341,158	9,341,221	51.4
1939–40	7,123,009	6,635,337	487,672	9,720,419	73.3
1941–42	6,933,265	6,420,544	512,721	9,749,000	71.1
1943–44	6,030,617	5,584,656	445,961	9,449,000	63.8
1945–46	6,237,133	5,664,528	572,605	9,056,000	68.9
1947–48	6,305,168	5,675,937	629,231	8,841,000	71.3
1949–50	6,453,009	5,757,810	695,199	8,404,768	76.8
1951–52	6,596,351	5,917,384	678,967	8,516,000	77.5
1953–54	7,108,973	6,330,565	778,408	8,861,000	80.2
1955–56	7,774,975	6,917,790	857,185	9,207,000	84.4
1957–58	8,869,186	7,905,469	963,717	10,139,000	87.5
1959–60	9,599,810	8,531,454	1,068,356	11,154,879	86.1
1961–62	10,768,972	9,616,755	1,152,217	11,998,000	89.8
Fall 1963	12,255,496	10,935,536	1,319,960	13,446,000	91.1
Fall 1965	13,020,823	11,657,808	1,363,015	14,139,000	92.1
Fall 1969	14,518,301	13,084,301	[5] 1,434,000	15,555,000	93.3
Fall 1971 [6]	15,226,000	13,886,000	1,340,000	16,242,000	93.7

[1] Unless otherwise indicated, includes enrollment in subcollegiate departments of institutions of higher education and in residential schools for exceptional children. Beginning in 1949-50, also includes Federal schools.
[2] Includes all persons residing in the United States, but excludes Armed Forces overseas. Data from the decennial censuses have been used when appropriate. Other figures are Bureau of the Census estimates as of July 1 preceding the opening of the school year.
[3] Excludes enrollment in subcollegiate departments of institutions of higher education and in residential schools for exceptional children.
[4] Data for 1927-28.
[5] Estimated.
[6] Preliminary data.

Note.—Beginning in 1959-60, includes Alaska and Hawaii.
SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, "Biennial Survey of Education in the United States," chapters on Statistical Summary of Education; and unpublished data available in the Office of Education.

Table 4.—Enrollment in federally aided vocational classes, by type of program: United States and outlying areas, 1920 to 1971

Fiscal year	Type of program								
	Total	Agriculture	Distributive occupations	Home economics	Trades and industry	Health occupations	Technical education	Office occupations	Other programs
1	2	3	4	5	6	7	8	9	10
1920.....	265,058	31,301	.....	48,938	184,819	.....	.....	.....	.....
1930.....	981,882	188,311	.....	174,967	618,604	.....	.....	.....	.....
1940.....	2,290,741	584,133	129,433	818,766	758,409	.....	.....	.....	.....
1942.....	2,624,786	605,099	215,049	954,041	850,597	.....	.....	.....	.....
1944.....	2,001,153	469,959	181,509	806,605	543,080	.....	.....	.....	.....
1946.....	2,227,663	510,331	174,672	911,816	630,844	.....	.....	.....	.....
1948.....	2,836,121	640,791	292,936	1,139,766	762,628	.....	.....	.....	.....
1950.....	3,364,613	764,975	364,670	1,430,356	804,602	.....	.....	.....	.....
1952.....	3,165,988	746,402	234,984	1,391,389	793,213	.....	.....	.....	.....
1954.....	3,164,851	737,502	220,619	1,380,147	826,583	.....	.....	.....	.....
1956.....	3,413,159	785,599	257,025	1,486,816	883,719	.....	.....	.....	.....
1958.....	3,629,339	775,892	282,558	1,559,822	983,644	27,423	.....	.....	.....
1960.....	3,768,149	796,237	303,784	1,588,109	938,490	40,250	101,279	.....	.....
1962.....	4,072,677	822,664	321,065	1,725,660	1,005,383	48,985	148,920	.....	.....
1964.....	4,566,390	860,605	334,126	2,022,138	1,069,274	59,006	221,241	.....	.....
1966.....	6,070,059	907,354	420,426	1,897,670	1,269,051	83,677	253,838	1,238,043	.....
1968.....	7,533,936	851,158	574,785	2,283,338	1,628,542	140,987	269,832	1,735,997	49,297
1970.....	8,793,960	852,983	529,365	2,570,410	1,906,133	198,044	271,730	2,111,160	354,135
1971.....	10,525,660	845,085	578,075	3,129,804	2,075,166	269,546	313,060	2,226,854	1,087,270

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, annual reports on "Vocational and Technical Education;" ad unpublished data.

Table 5.—Estimated number of classroom teachers in elementary and secondary schools, and total instructional staff for resident courses in institutions of higher education: United States, fall 1971 and fall 1972 [1]

[Full-time and part-time teachers and staff]

Level of instruction and type of control	Fall 1971	Fall 1972
1	2	3
Total elementary, secondary, and higher education	2,899,000	2,938,000
Public	2,478,000	2,517,000
Nonpublic	421,000	421,000
Elementary and secondary classroom teachers in regular and other schools [2]	2,296,000	2,318,000
Public	2,079,000	2,102,000
Nonpublic	217,000	216,000
Elementary classroom teachers in regular and other schools [2]	1,293,000	1,288,000
Public	1,150,000	1,146,000
Nonpublic	143,000	142,000
Secondary classroom teachers in regular and other schools [2]	1,003,000	1,030,000
Public	929,000	956,000
Nonpublic	74,000	74,000
Higher education instructional staff for resident courses (first term) [3]	603,000	620,000
Public	399,000	415,000
Nonpublic	204,000	205,000

[1] The 1971 figures for nonpublic and other elementary and secondary schools and for institutions of higher education, and all 1972 figures, are estimates. Data for nonpublic elementary and secondary schools are not as complete as those for public schools; consequently, the estimates for nonpublic schools are not as reliable as those for public schools or for higher education. The estimates for 1972 are derived from expected enrollment changes combined with the long-term trend in pupil-teacher ratios.

[2] The figures include elementary and secondary classroom teachers in regular public and nonpublic schools and other schools, such as Federal schools for Indians, federally operated schools on posts, subcollegiate departments of colleges, and residential schools for exceptional children. For 1971, the number of such teachers is estimated as 12,000 in public and 2,000 in nonpublic elementary schools, 4,000 in public and 3,000 in nonpublic secondary schools.

[3] Includes full-time and part-time staff with rank of instructor or above, and junior staff, such as graduate assistants, for instruction in resident courses.

SOURCE: Surveys and estimates of the National Center for Educational Statistics, Office of Education, U.S. Department of Health, Education, and Welfare.

Table 6.—Comparative statistics on enrollment, teachers, and schoolhousing in full-time public elementary and secondary schools: United States, fall 1966 and 197 .

Item	Fall 1966	Fall 1971[1]	Percentage change, 1966 to 1971
1	2	3	4
Enrollment			
Total	43,039,199	46,081,000	7.1
Elementary schools	27,105,221	27,688,000	2.2
Secondary schools	15,933,978	18,393,000	15.4
Classroom teachers			
Total	1,789,238	2,063,000	15.3
Elementary schools	1,005,965	([2])	([2])
Secondary schools	783,273	([2])	([2])
Pupil-teacher ratio			
All schools	24.1	22.3	.....
Elementary schools	27.0	([2])	.....
Secondary schools	20.4	([2])	.....
Instruction rooms			
Total available	1,653,455	1,918,000	16.0
Number completed during preceding school year	72,600	65,389	—9.9

[1] Data subject to minor revision.
[2] Data not available.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Fall 1966 Statistics of Public Schools* and *Statistics of Public Elementary and Secondary Day Schools, Fall 1971.*

Table 7.—Number of high school graduates compared with population 17 years of age: United States, 1969-70 to 1970-71

School year	Population 17 years old[2]	High school graduates[1]			Number graduated per 100 persons 17 years of age
		Total	Boys	Girls	
1	2	3	4	5	6
1869-70	815,000	16,000	7,064	8,936	2.0
1879-80	946,026	23,634	10,605	13,029	2.5
1889-90	1,259,177	43,731	18,549	25,182	3.5
1899-1900	1,489,146	94,883	38,075	56,808	6.4
1909-10	1,786,240	156,429	63,676	92,753	8.8
1919-20	1,855,173	311,266	123,684	187,582	16.8
1929-30	2,295,822	666,904	300,376	366,528	29.0
1939-40	2,403,074	1,221,475	570,718	642,757	50.8
1941-42	2,425,574	1,242,375	576,717	665,658	51.2
1943-44	2,410,389	1,019,233	423,971	595,262	42.3
1945-46	2,254,738	1,080,033	466,926	613,107	47.9
1947-48	2,202,927	1,189,909	562,863	627,046	54.0
1949-50	2,034,450	1,199,700	570,700	629,000	59.0
1951-52	2,040,800	1,195,500	569,200	627,300	58.6
1953-54	2,128,600	1,276,100	612,500	663,600	60.0
1955-56	2,270,000	1,414,800	679,500	735,300	62.3
1957-58	2,324,000	1,505,900	725,500	780,400	64.8
1959-60	2,862,005	1,864,000	898,000	966,000	65.1
1961-62	2,768,000	1,925,000	941,000	984,000	69.5
1963-64	3,001,000	2,290,000	1,121,000	1,169,000	76.3
1965-66	3,515,000	2,632,000	1,308,000	1,324,000	74.9
1967-68	3,521,000	2,702,000	1,341,000	1,361,000	76.7
1969-70	3,825,343	2,896,000	1,433,000	1,463,000	75.7
1970-71[3]	3,878,000	2,944,000	1,457,000	1,487,000	75.9

[1] Includes graduates of public and nonpublic schools.
[2] Data from the Bureau of the Census.
[3] Preliminary data.

Note.—Beginning in 1959-60, includes Alaska and Hawaii.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, "Biennial Survey of Education in the United States," chapters on Statistical Summary of Education—"Statistics of State School Systems" and "Statistics of Nonpublic Elementary and Secondary Schools"—and unpublished data available in the Office of Education.

Table 8.—Earned degrees conferred by institutions of higher education: United States, 1869-70 to 1970-71

Year	Earned degrees conferred			
	All degrees	Bachelor's and first-professional	Master's except first-professional	Doctor's
1	2	3	4	5
1869–70	9,372	9,371	0	1
1879–80	13,829	12,896	879	54
1889–90	16,703	15,539	1,015	149
1899–1900	29,375	27,410	1,583	382
1909–10	39,755	37,199	2,113	443
1919–20	53,516	48,622	4,279	615
1929–30	139,752	122,484	14,969	2,299
1939–40	216,521	186,500	26,731	3,290
1941–42	213,491	185,346	24,648	3,497
1943–44	141,582	125,863	13,414	2,305
1945–46	157,349	136,174	19,209	1,966
1947–48	317,607	271,019	42,400	4,188
1949–50	496,661	432,058	58,183	6,420
1951–52	401,203	329,986	63,534	7,683
1953–54	356,608	290,825	56,788	8,995
1955–56	376,973	308,812	59,258	8,903
1957–58	436,979	362,554	65,487	8,938
1959–60	476,704	392,440	74,435	9,829
1961–62	514,323	417,846	84,855	11,622
1963–64	614,194	498,654	101,050	14,490
1965–66	709,832	551,040	140,555	18,237
1967–68	866,548	666,710	176,749	23,089
1969–70	1,065,391	827,234	208,291	29,866
1970–71	1,140,292	877,676	230,509	32,107

Note.—Beginning in 1959-60, includes Alaska and Hawaii.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, "Biennial Survey of Education in the United States"; and publications on "Earned Degrees Conferred."

Table 9.—Earned degrees conferred by institutions of higher education, by field of study and by level: United States, 1970-71

Field of study	Earned degrees conferred			
	Bachelor's degrees (requiring 4 or 5 years)	First professional degrees (requiring at least 6 years)	Second level (master's) degrees	Doctor's degrees (Ph.D., Ed.D., etc.)
1	2	3	4	5
All fields	839,730	37,946	230,509	32,107
Agriculture and natural resources	12,672	.....	2,457	1,086
Architecture and environmental design	5,570	.....	1,705	36
Area studies	2,492	.....	1,007	144
Biological sciences	35,743	.....	5,728	3,645
Business and management	115,527	.....	26,544	810
Communications	10,802	.....	1,856	145
Computer and information sciences	2,388	.....	1,588	128
Education	176,571	.....	88,716	6,398
Engineering	50,046	.....	16,443	3,638
Fine and applied arts	30,394	.....	6,675	621
Foreign languages	19,945	.....	4,755	781
Health professions	25,226	15,159	5,749	466
Home economics	11,167	.....	1,452	123
Law	545	17,421	955	20
Letters [1]	73,122	.....	12,710	2,416
Library science	1,013	.....	7,001	39
Mathematics	24,801	.....	5,191	1,199
Military sciences	357	.....	2	.....
Physical sciences	21,412	.....	6,367	4,390
Psychology	37,880	.....	4,431	1,782
Public affairs and services	9,220	.....	8,260	178
Social sciences	155,326	.....	16,501	3,659
Theology	3,744	5,055	2,710	312
Interdisciplinary and other fields	13,767	311	1,706	91

[1] Includes general English; English literature; Comparative literature; Classics; Linguistics; Speech, debate, and forensic science; Creative writing; Teaching of English as a foreign language; Philosophy; and Religious studies.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Earned Degrees Conferred, 1970-71.*

Table 10.—Estimated retention rates,[1] 5th grade through college entrance, in public and nonpublic schools: United States, 1924-32 to 1962-70

School year pupils entered 5th grade	Retention per 1,000 pupils who entered 5th grade								High school graduation		First-time college students
	5th grade	6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade	Number	Year of graduation	
1	2	3	4	5	6	7	8	9	10	11	12
1924-25	1,000	911	798	741	612	470	384	344	302	1932	118
1926-27	1,000	919	824	754	677	552	453	400	333	1934	129
1928-29	1,000	939	847	805	736	624	498	432	378	1936	137
1930-31	1,000	943	872	824	770	652	529	463	417	1938	148
1932-33	1,000	935	889	831	786	664	570	510	455	1940	160
1934-35	1,000	953	892	842	803	711	610	512	467	1942	129
1936-37	1,000	954	895	849	839	704	554	425	393	1944	121
1938-39	1,000	955	908	853	796	655	532	444	419	1946	([2])
1940-41	1,000	968	910	836	781	697	566	507	481	1948	([2])
1942-43	1,000	954	909	847	807	713	604	539	505	1950	205
1944-45	1,000	952	929	858	848	748	650	549	522	1952	234
1946-47	1,000	954	945	919	872	775	641	583	553	1954	283
1948-49	1,000	984	956	929	863	795	706	619	581	1956	301
1950-51	1,000	981	968	921	886	809	709	632	582	1958	308
1952-53	1,000	974	965	936	904	835	746	667	621	1960	328
1954-55	1,000	980	979	948	915	855	759	684	642	1962	343
1956-57	1,000	985	984	948	930	871	790	728	676	1964	362
Fall 1958	1,000	983	979	961	946	908	842	761	732	1966	384
Fall 1960	1,000	980	973	967	952	913	858	787	749	1968	452
Fall 1962	1,000	990	983	976	963	931	863	793	[3]752	1970	[3]465

[1] Rates for the 5th grade through high school graduation are based on enrollments in successive grades in successive years in public elementary and secondary schools and are adjusted to include estimates for nonpublic schools. Rates for first-time college enrollment include full-time and part-time students enrolled in programs creditable toward a bachelor's degree.
[2] Data not available.
[3] Subject to revision when final data become available.

Note.—Beginning with the class in the 5th grade in 1958, data are based on fall enrollment and exclude ungraded pupils. The net effect of these changes is to increase high school graduation and college entrance rates slightly.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, "Biennial Survey of Education in the United States," chapters on "Statistical Summary of Education;" and unpublished data available in the Office of Education.

Table 11.—Level of school completed by persons 25 years old and over and 25 to 29 years old: United States, 1910 to 1972

Age and date	Percent, by level of school completed			Median school years completed
	Less than 5 years of elementary school	4 years of high school or more	4 or more years of college	
1	2	3	4	5
25 years old and over:				
1910[1]	23.8	13.5	2.7	8.1
1920[1]	22.0	16.4	3.3	8.2
1930[1]	17.5	19.1	3.9	8.4
April 1940	13.5	24.1	4.6	8.6
April 1950	10.8	33.4	6.0	9.3
April 1960	8.3	41.1	7.7	10.5
March 1964	7.1	48.0	9.1	11.7
March 1970	5.3	55.2	11.0	12.2
March 1972	4.6	58.2	12.0	12.2
25 to 29 years old:				
April 1940	5.9	37.8	5.8	10.4
April 1950	4.6	51.7	7.7	12.1
April 1960	2.8	60.7	11.1	12.3
March 1964	2.1	69.2	12.8	12.4
March 1970	1.1	75.4	16.4	12.6
March 1972	.8	79.8	19.0	12.7

[1] Estimates based on retrojection of 1940 census data on education by age.

Note.—Prior to 1950, data exclude Alaska and Hawaii.

SOURCE: U.S. Department of Commerce, Bureau of the Census, "1960 Census of Population," Vol. 1, Part 1; "Current Population Reports," Series P-20, Nos. 138, 158, 207, and 243; Series P-19, No. 4; and 1960 Census Monograph, "Education of the American Population," by John K. Folger and Charles B. Nam.

Table 12.—Percent of illiteracy [1] in the population: United States, 1870 to 1969

Year	Percent illiterate[2]	Year	Percent illiterate[2]
1	2	1	2
1870	20.0	1930	4.3
1880	17.0	1940	[3]2.9
1890	13.3	1947	2.7
1900	10.7	1952	2.5
1910	7.7	1959	2.2
1920	6.0	1969	1.0

[1] Illiteracy is defined as the inability to read or write a simple message either in English or in any other language.
[2] Percentages refer to the population 10 years old and over from 1870 to 1940 and to the population 14 years old and over from 1947 to 1969.
[3] Estimated.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 217.

Table 13.—Public elementary and secondary school revenue receipts from Federal, State, and local sources: United States, 1919-20 to 1969-70

School year	Total	Federal	State	Local (including intermediate)[1]
1	2	3	4	5
	AMOUNT IN THOUSANDS OF DOLLARS			
1919-20	$970,120	$2,475	$160,085	$807,561
1929-30	2,088,557	7,334	353,670	1,727,553
1939-40	2,260,527	39,810	684,354	1,536,363
1941-42	2,416,580	34,305	759,993	1,622,281
1943-44	2,604,322	35,886	859,183	1,709,253
1945-46	3,059,845	41,378	1,062,057	1,956,409
1947-48	4,311,534	120,270	1,676,362	2,514,902
1949-50	5,437,044	155,848	2,165,689	3,115,507
1951-52	6,423,816	227,711	2,478,596	3,717,507
1953-54	7,866,852	355,237	2,944,103	4,567,512
1955-56	9,686,677	441,442	3,828,886	5,416,350
1957-58	12,181,513	486,484	4,800,368	6,894,661
1959-60	14,746,618	651,639	5,768,047	8,326,932
1961-62	17,527,707	760,975	6,789,190	9,977,542
1963-64	20,544,182	896,956	8,078,014	11,569,213
1965-66	25,356,858	1,996,954	9,920,219	13,439,686
1967-68	31,903,064	2,806,469	12,275,536	16,821,063
1969-70	40,226,923	3,219,557	16,062,776	20,984,589

School year	Total	Federal	State	Local (including intermediate)[1]
1	2	3	4	5
	PERCENTAGE DISTRIBUTION			
1919-20	100.0	0.3	16.5	83.2
1929-30	100.0	.4	16.9	82.7
1939-40	100.0	1.8	30.3	68.0
1941-42	100.0	1.4	31.5	67.1
1943-44	100.0	1.4	33.0	65.6
1945-46	100.0	1.4	34.7	63.8
1947-48	100.0	2.8	38.9	58.3
1949-50	100.0	2.9	39.8	57.3
1951-52	100.0	3.5	38.6	57.8
1953-54	100.0	4.5	37.4	58.1
1955-56	100.0	4.6	39.5	55.9
1957-58	100.0	4.0	39.4	56.6
1959-60	100.0	4.4	39.1	56.5
1961-62	100.0	4.3	38.7	56.9
1963-64	100.0	4.4	39.3	56.3
1965-66	100.0	7.9	39.1	53.0
1967-68	100.0	8.8	38.5	52.7
1969-70	100.0	8.0	39.9	52.1

[1] Includes a relatively minor amount from other sources (gifts and tuition and transportation fees from patrons), which accounted for 0.4 percent of total revenue receipts in 1967-68.

Note.—Beginning in 1959-60, includes Alaska and Hawaii. Because of rounding, detail may not add to totals.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, "Statistics of State School Systems."

Table 14.—Federal funds for education and related activities: Fiscal years 1971 and 1972

Level and type of support	1971	1972 [1]	Percentage increase, 1971 to 1972
1	2	3	4
Federal funds supporting education in educational institutions			
Total grants and loans	$10,894,257,000	$12,148,749,000	11.5
Grants, total	10,409,420,000	11,608,874,000	11.5
Elementary-secondary education	3,724,363,000	4,017,751,000	7.9
Higher education	4,711,804,000	5,329,544,000	13.1
Vocational-technical and continuing education	1,973,253,000	2,261,579,000	14.6
Loans, total (higher education)	484,837,000	539,875,000	11.4
Other Federal funds for education and related activities			
Total	4,044,368,000	4,804,107,000	18.8
Applied research and development	1,352,086,000	1,475,068,000	9.1
School lunch and milk programs	928,186,000	1,309,146,000	41.0
Training of Federal personnel	854,930,000	928,957,000	8.7
Library services	186,338,000	236,706,000	27.0
International education	180,668,000	214,450,000	18.7
Other	542,160,000	639,780,000	18.0

[1] Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, *Digest of Educational Statistics*, 1972 edition.

Table 15.—Total and per-pupil expenditures for public elementary and secondary education: United States, 1919-20 to 1971-72

School year	Total expenditures	Total expenditure per pupil in average daily attendance	School year	Total expenditures	Total expenditure per pupil in average daily attendance
1	2	3	1	2	3
1919–20.....	$1,036,151,000	$64	1961–62.....	18,373,339,000	530
1929–30.....	2,316,790,000	108	1963–64.....	21,324,993,000	559
1939–40.....	2,344,049,000	106	1965–66.....	26,248,026,000	654
1949–50.....	5,837,043,000	259	1967–68.....	32,977,182,000	786
1959–60.....	15,613,255,000	472	1969–70.....	40,683,428,000	970
			1971–72 [1].....	48,513,986,000	1,091

[1] Estimated.

SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Statistics of State School Systems* and *Statistics of Public Elementary and Secondary Day Schools, Fall 1971.*

Table 16.—Gross national product related to total expenditures [1] for education: United States, 1929-30 to 1971-72

Calendar year	Gross national product (in millons)	School year	Expenditures for education	
			Total (in thousands)	As a percent of gross national product
1	2	3	4	5
1929	$103,095	1929–30	$3,233,601	3.1
1931	75,820	1931–32	2,966,464	3.9
1933	55,601	1933–34	2,294,896	4.1
1935	72,247	1935–36	2,649,914	3.7
1937	90,446	1937–38	3,014,074	3.3
1939	90,494	1939–40	3,199,593	3.5
1941	124,540	1941–42	3,203,548	2.6
1943	191,592	1943–44	3,522,007	1.8
1945	212,010	1945–56	4,167,597	2.0
1947	231,323	1947–48	6,574,379	2.8
1949	256,484	1949–50	8,795,635	3.4
1951	328,404	1951–52	11,312,446	3.4
1953	364,593	1953–54	13,949,876	3.8
1955	397,960	1955–56	16,811,651	4.2
1957	441,134	1957–58	21,119,565	4.8
1959	483,650	1959–60	24,722,464	5.1
1961	520,109	1961–62	29,366,305	5.6
1963	590,503	1963–64	36,010,210	6.1
1965	684,884	1965–66	45,397,713	6.6
1967	793,927	1967–68	57,213,374	7.2
1969	930,284	1969–70	[2]70,000,000	7.5
1971	1,050,356	1971–72	[2]83,800,000	8.0

[1] Includes expenditures of public and nonpublic schools at all levels of education (elementary, secondary, and higher education).
[2] Estimated.

Note.—Beginning with 1959-60 school year, includes Alaska and Hawaii.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, "Biennial Survey of Education in the United States;" "Statistics of State School Systems;" "Financial Statistics of Institutions of Higher Education;" and unpublished data. U.S. Department of Commerce, Bureau of Economic Analysis, "Survey of Current Business," August 1965, July 1971, and July 1972.

Table 17.—Expenditures of Federal, State, and local funds for vocational education: United States and outlying areas, 1920 to 1971

[In thousands of dollars]

Fiscal year	Total	Federal	State	Local
1	2	3	4	5
1920	$8,535	$2,477	$2,670	$3,388
1930	29,909	7,404	8,233	14,272
1940	55,081	20,004	11,737	23,340
1942	59,023	20,758	14,045	24,220
1944	64,299	19,958	15,016	29,325
1946	72,807	20,628	18,538	33,641
1948	103,339	26,200	25,834	51,305
1950	128,717	26,623	40,534	61,561
1952	146,466	25,863	47,818	72,784
1954	151,289	25,419	54,550	71,320
1956	175,886	33,180	61,821	80,884
1958	209,748	38,733	72,305	98,710
1960	238,812	45,313	82,466	111,033
1962	283,948	51,438	104,264	128,246
1964	332,785	55,027	124,975	152,784
1966	799,895	233,794	216,583	349,518
1968	1,192,863	262,384	400,362	530,117
1970	1,841,846	100,046	(1)	[1]1,541,801
1971[2]	2,347,353	396,378	(1)	[1]1,950,975

[1] State funds are included with local funds in column 5.
[2] Provisional data.

Note.—Because of rounding, detail may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, annual reports on "Vocational and Technical Education;" and unpublished data.

III. Organization and Administration of Education

Authority Basically Decentralized

The authority for education in the United States is decentralized. The 10th amendment to the Constitution provides that "the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people." Since responsibility for education is not mentioned in the Constitution, it is legally considered delegated to the States. Thus, each State has the right and responsibility to organize and operate its educational system as it deems appropriate —subject to constitutional guarantees of the rights and privileges of U.S. citizens.

Federal Responsibility

The educational responsibilities of the Federal Government are to provide encouragement, financial support, and leadership. The Congress of the United States has constitutional powers to allocate funds for education, but it has no direct control over education. In addition to the major educational programs funded by the Department of Health, Education, and Welfare, several other departments within the Federal Government make large expenditures on specific educational programs. For example, the U.S. Department of Defense allocates funds for its overseas schools for dependents of military personnel; and the U.S. Department of the Interior, for the education of American Indians and support for schools in the outlying Trust Territory of the Pacific Islands.

With the passage of the Education Amendments of 1972, a new structure in the organization of the education programs within the Department of Health, Education, and Welfare was developed. This legislation established within the U.S. Department of Health, Education, and Welfare (HEW) an Education Division that included the Office of Education and the National Institute of Education.[1] The head of the Education Division has the title of Assistant Secretary for Education and coordinates the activities of subordinate agencies.

The Office of Education is the primary agency of the Federal Government responsible for the administration of legislated programs of financial assistance to educational agencies, institutions, and organizations with particular reference to broad national concerns. It is responsible to the Assistant Secretary for formulating program policies.

The National Institute of Education (NIE) has been created to provide Federal Government "leadership in the conduct and support of scientific inquiry into the educational process."[2] The NIE's function includes building an effective educational research and demonstration system and strengthening the scientific and technological foundations of education. It develops ideas and materials to deal with areas of national concern in the classroom. Dissemination and utilization are another major responsibility of the NIE. It will be guided by a director and a 15-member National Council on Educational Research, all appointed by the President.

[1] Public Law 92-318, title III, sec. 401, June 23, 1972.

[2] Op. cit., sec. 405.

A third office within the Education Division is the Fund for the Improvement of Postsecondary Education "to improve postsecondary educational opportunities by providing assistance to encourage the reform, innovation, and improvement of postsecondary education."[3] A 14-member advisory board makes recommendations on the policy direction of the fund.

In recent years, specific congressional legislation has called upon the Office of Education (or, more recently, the Education Division) to administer many kinds of educational programs, research, and services.

State Responsibility and Control

Since each of the States[4] is responsible for its own educational system, their practices and policies differ. Each State's department of education, under policies set by that State's board of education and chief State school officer, administers its educational enterprise. The State legislature is responsible for enacting laws pertaining to education for both public and nonpublic schools in the State, but the State department of education and local school districts are responsible for operation of the school system.

The State board of education determines State educational policies in compliance with State laws. In some instances board members are elected by the people; in others, they are appointed by the State Governors and serve for terms ranging from 2 to 6 years. They are empowered to formulate policies relating to such educational affairs as allocation of school funds, certification of teachers, textbook and library services, provision for records and educational statistics, and overall coordination of the State school system. The board's responsibility may include not only elementary and secondary schools but State institutions for teacher education and special schools for the handicapped.

The key education official and chief executive officer of the State board of education is the chief State school officer. The title given to this official most frequently is superintendent of public instruction or State commissioner of education. He may be elected by the people or appointed by the Governor of the State or by the State board of education; he serves from 1 to 6 years, his term of office usually determined by the board. He is responsible for administering the State school system and implementing policies adopted by the Board. As the key official of the board, he gives leadership to the staff of the State department of education, which is composed of supervisory, professional and administrative personnel appointed by him or by the board. The State professional personnel of elementary, secondary, and specialized fields of education work with local school officials in an advisory capacity to provide consultative and other services.

Each State (except Hawaii) has provided for the establishment of local administrative districts, and vested them with extensive authority and responsibility for establishing and regulating the schools in their districts.

[3] Op. cit., sec. 404 ("Support for Improvement of Postsecondary Education").

[4] In this context, the term "States" includes the 50 States of the Union, the District of Columbia, and the outlying areas.

Each local school district has a board of education, usually five to seven members elected by citizens of the school district. Within the limits of State policy, the local board operates the local school system.

The functions of the board of education in determining educational policies, and of the superintendent of schools in executing these policies, include a broad range of duties and responsibilities. Together, the board and the superintendent are responsible for preparing the school budget and, in most cases, for determining the amount of local taxes necessary to finance the school program. They are responsible for hiring teachers and other school personnel, for providing and maintaining school buildings, for purchasing school equipment and supplies, and, in most cases, for providing transportation facilities for pupils who live beyond a reasonable walking distance from school. Their duties also include enacting rules and regulations consistent with State law and regulations of the State department of education governing operation of the schools. Thus, the limitations on the actions of school boards are those established by the State legislature and by the State education agencies, which have in most cases prescribed minimum standards for all local school districts.

One of the unique characteristics of U.S. education is the degree to which schools are operated by local school authorities. The broad authority given local boards of education allows public educational programs to be responsive to the will of the people and the needs of the community. The teacher shares in this authority, enjoying some measure of independence in selecting methods and materials under guidelines established by the State department of education.

The decentralized character of the educational system is even greater at the higher education level, because private higher education institutions in the United States predated State departments of education. Their early autonomy set them apart from the mainstream of publicly financed schools and established a precedent for their relative independence.

U.S. higher education institutions offer diverse programs, and vary in size and pattern of organization. Some are operated by units of local and State government, but more than half are privately controlled. They have achieved some degree of uniformity in standards and practices by affiliating with regional and national professional associations, and by cooperating with independent accrediting agencies and voluntarily accepting their evaluation.

Most colleges and universities, whether under private or public auspices, are administered by a governing body or board, usually known as a board of trustees, governors, or regents. Members of the board may be appointed or elected for a specified period of time or for life. An institution charter, issued by the State, prescribes procedures for naming members of the boards of trustees. Board members of a publicly controlled institution usually are elected by the citizens of the State or appointed by the Governor. Board members of a private institution may be appointed by the board of trustees and in some colleges and universities the alumni

may have a role in their selection. New organizational patterns are emerging that give students and faculty an increased share in the decisionmaking process that governs the operation of colleges and universities.

The board of trustees makes decisions regarding policies, management and personnel, but the president or chancellor of the university, with the administrative staff, is responsible for operating the institution. The board also selects the president, who, with the assistance of one or more vice presidents, directs the general administration of the institution. In a small institution the dean of instruction may have responsibilities for administration as well as for professional development of educational programs. He is assisted by department or division chairmen and by faculties, which work as committees on the many problems and issues that arise. Other administrative officials include the registrar, the director of admissions, the business officer, and the director of student affairs.

Structure

The Basic Plan

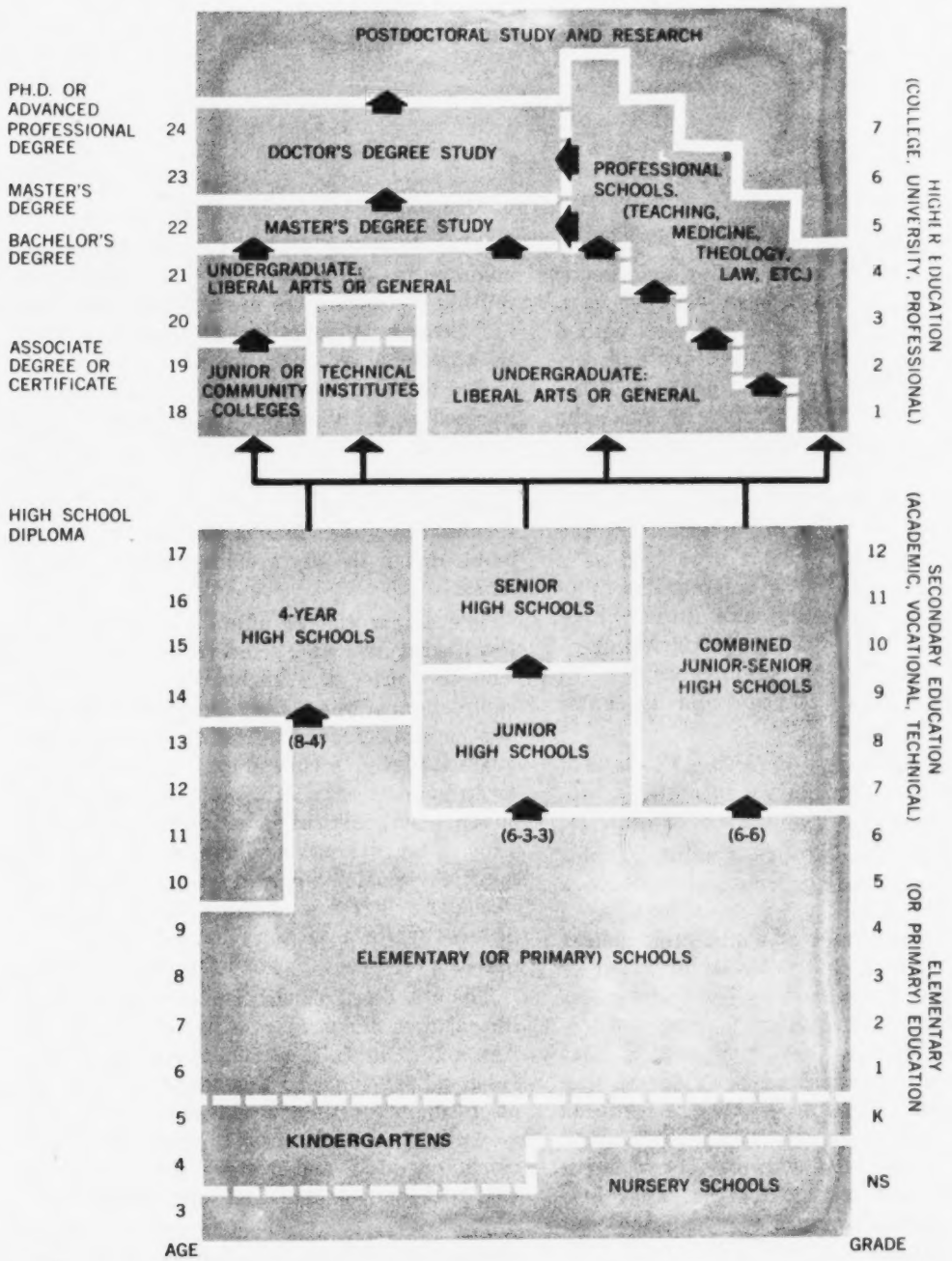
No major changes have taken place during 1970–71 and 1971–72 in the structure of education in the United States. Elementary schools provide education for at least 6 years, and in some schools for 8 years. The minimum entrance age is 6. Secondary schools provide education for at least 4 years and in some cases 6 years. The usual entrance age is 12 or 14. While compulsory attendance laws vary slightly from one State to another, attendance is usually required between the ages of 7 and 16. Completion of 12 grades of schooling is usually required before entering postsecondary education. Postsecondary education includes all programs pursued after graduation from high school, including programs of less than 4 years in professional, technical, and community colleges, 4-year undergraduate programs, and graduate studies.

The school year for public elementary and secondary schools usually begins in September and ends in June; the fiscal year usually starts in July. There is an increasing tendency for school districts across the country to support the movement to make educational opportunities available to children throughout the year, including the summer months, and in a variety of settings such as camps, after-school centers, and mobile schools.

The elementary school is usually composed of the kindergarten and an additional six or eight grades. In some communities nursery schools for 3- or 4-year olds may be provided for a period of 1 or 2 years before the children enter kindergarten. The kindergarten enrolls 4- or 5-year-old children for 1 or 2 years, prior to their entrance into the first grade. In some school districts, the two beginning units overlap. Approximately 82.5 percent of the 5-year olds in the population were enrolled in kindergarten in 1971.

As shown in figure 1, in the 8–4 plan used in many schools, students pursue grades 1 through 8 in an elementary school, and grades 9 through 12 in a secondary school.

Figure 1.—The structure of education in the United States



SOURCE: U.S. Department of Health, Education, and Welfare, Office of Education, *Digest of Educational Statistics*, 1972.

The 6–3–3 plan provides for an elementary school of 6 grades and a junior and senior high school of 3 grades each. Smaller communities sometimes use the 6–6 plan with 6 years each for both the elementary and secondary school programs. The purpose of the different organizational plans is to make the best use of a school system's physical facilities, staff, and instructional tools within the framework of agreed upon goals.

The secondary level of education in the United States is sometimes organized as a 4-year program. In some communities a 6-year program including the junior high school grades 7 and 8 is the preferred organizational plan. The usual entrance age for junior high school is 12 years and for senior high school 14 years.

After satisfactorily completing 12 years of elementary and secondary education, a student graduates usually at the age of 17 or 18.

High school graduates may enter a junior or community college, a technical institute, a professional school, a 4-year college, or a university. The junior or community college normally offers a 2- or 3-year program of study beyond the secondary level. Programs usually include a curriculum leading to a certificate. Sometimes they give credits that may be used toward a bachelor's degree in a 4-year college. Some programs are terminal in nature and prepare students to become proficient in one of a wide variety of semiprofessional and technical areas. They also may offer general courses of continuing education for adults.

The community college is supported and controlled by the community in which it is located. It serves students in the immediate community and those who live within commuting distance. Fees are comparatively low and because students live at home they have no additional expenses for room and board.

The technical institute is an institution organized as a division or department in a 2- or 4-year institution of higher education or as an independent institution of postsecondary education. It usually offers a 2- or 3-year terminal program that is designed to lead to employment in engineering-related occupations.

The 4-year college offers a curriculum in the liberal arts and sciences and is authorized to confer the bachelor's degree upon completion of the 4-year program. The student may begin specialization at the undergraduate level. A college may be independent or an undergraduate division of a university. Independent colleges sometimes also offer advanced degrees, particularly at the master's level. At least 1 year of study beyond the bachelor's degree is necessary for a master's degree, while a doctor's degree usually requires 3 or 4 years beyond the baccalaureate.

The university usually includes a college of liberal arts and sciences that commonly offers a B.A. or B.S. degree, one or more professional schools, and a graduate school that offers opportunities for advanced study and research. It is authorized to confer the bachelor's, master's, and doctor's degrees in liberal arts, professional, and scientific fields.

The professional school is either a major division of a college or university or an independent institution for study and research in such professional or technological fields as

architecture, business, education, engineering, law, medicine, physical sciences, and theology. It offers programs that lead to a higher education degree and fulfill academic requirements for certification or licensure in fields of specialization. Depending on the field of training, entrance requirements vary from secondary school graduation to completion of a preprofessional curriculum in a college of arts and sciences.

Experimentation

Schools in the United States are continually experimenting with different structures and program organization. Among those currently receiving favorable attention are the multiunit plan, modular scheduling, the open school, the free school, the school without walls, the university without walls, and the consortium.

The multiunit plan is an organization pattern that replaces the classroom with a nongraded instructional and research unit. Each unit contains 100 to 150 children within four age groups (4–6, 6–9, 8–11, and 10–12). It also has a unit leader, or master teacher, two or three staff teachers or teaching interns, and one or two aides. The second level of organization is the "instructional improvement committee," consisting of a school's unit leaders and principal. The third level is the "systemwide policy committee." The multiunit school is designed to be the first step in a new system of elementary education called "individually guided education." Some schools are developing their own programs to use in multiunit schools.

Modular (flexible) scheduling encompasses a variety of plans in both elementary and high schools that reorder the traditional class time allotments. It provides greater flexibility built around individual student needs.

The open school provides for small clusters or centers of learning within large open spaces in school buildings. This plan is coupled with individualized instruction, team teaching, and wide use of audiovisual aids. The open school is able to offer instruction more tailored to student needs and capabilities than can the traditional school.

A free school is one that provides students with a variety of options as to courses of study and the timing of these courses. In some cases students may design their own courses or may request that a particular course be given. The advantages of the free school plan include high motivation and relevance to student needs and desires.

A school without walls is an elementary or secondary school that provides learning opportunities throughout the community. Classes are not restricted to a formal school building. Thus, students studying art may study at the local museum, students taking writing may study at a newspaper or magazine office, those studying civics may study at city hall, etc. The school without walls relieves the need for central school facilities, provides more "real-life" learning for students, and utilizes the community's expertise to teach courses.

The university without walls (also called an open university) is an alternative form of postsecondary education that seeks to build highly individualized and flexible programs

of learning and makes use of new and largely untapped resources for teaching and learning, including correspondence courses, TV, tapes, and tutoring on demand. It moves toward a new faith in the student and his capacity for learning on his own, while at the same time providing close and continuing contact between the student and teacher. It redefines the role of the teacher as a facilitator and coparticipant in the planning and design of the student's learning experience, and it seeks, through inclusion of a new age range (10 to 60 and older), to open access to education to younger and older persons who lack formal credentials or might otherwise be barred from degree study. Candidates are chosen through interviews.

The consortium is a group of several universities or colleges in the same metropolitan or geographic area that voluntarily band together to permit students in one to take courses in the others. Where demand for a particular course or courses is limited, the colleges may also combine departments and faculties so that only one school gives the course, and economies are achieved.

Under proposed legislation that provides greater autonomy at the local level for allocating funds from Federal sources, opportunity is provided for increased experimentation in educational structure and program organization. As the National Institute of Education proceeds with research in this area, additional innovations may be forthcoming. Meanwhile, at the college level, the new Fund for the Improvement of Postsecondary Education is already supporting a number of experimental programs.

IV. The Current Role of Secondary Education in Training and Employment

For nearly 40 percent of America's young people, secondary education is the last formal educational experience they have before seeking full-time work. Yet the curricular offerings for more than two-thirds of all public secondary students are not directly related to vocational preparation. This failure to equip many youths with at least minimal preparation for earning a living has wasted human resources, perplexed educators and the public, and frustrated many youths who, according to recent surveys, feel that the schools should be preparing them for meaningful employment.

This chapter provides an overview of the current role of the secondary school in helping young people to discover and develop their abilities and special talents.

Secondary Education

Aim

The aim of the total program of secondary education in the United States is to provide an education that will make graduates more effective citizens, both socially and economically. Added recognition is currently being given to the fact that, because most of the people in the United States will spend a significant portion of their lives working, they should have the opportunity both to enter the world of work with a marketable skill and also to continue their education at a higher level, either within or outside their occupational fields. In the past, the secondary school was viewed principally as preparing a student for college, whether or not he or she intended to enter the next higher level of education.

Policies and practices relating to secondary education vary considerably throughout the United States, depending upon State or local agencies. Decisions are made both at the State and at the school district level. There are in the United States today about 17,000 school districts.

Programs

Secondary education, the "high school" level, provides a basic academic education for all students. The curriculum offered in comprehensive high schools (the most common type), includes general, college preparatory, and vocational education. There are 23,000 combined elementary and secondary public schools and 24,000 secondary public schools, of which 411 are separately organized vocational schools.

The general curriculum typically requires completion of several courses in English literature and composition, mathematics, physical education, history, and the physical sciences. Elective or optional courses are offered in a variety of liberal arts subjects, such as art, music, foreign languages, psychology, or sociology. A specific number of these courses must also be completed for graduation. In addition, students may select either a college preparatory or a vocational emphasis. College preparatory students pursue primarily academic courses, often taking advanced courses in language, science, history, and mathematics. Those who are inter-

ested in vocational education supplement their general academic courses with additional study in specialized skill areas. (The separately organized vocational schools may provide the general curriculum as well or may send their students to regular high schools for part of their studies.)

Trends

America's comprehensive high schools today are attempting to prepare some students for higher education at the same time that they prepare others for more immediate entry into work. More programs are being offered that are geared to the diverse needs of all the young people in the society, providing broad experiences for the students who will not go to college as well as for those who will.

Work is also going on in many places to broaden the learning environment to include not only the school building itself but also the community—libraries, museums, offices, and shops—whenever the environment or the resources for learning are better away from the school than in it.

Other efforts are being made to individualize learning through programs of evaluation that take note of a pupil's progress in relating to his own goals rather than solely or largely in comparison with other pupils on a competitive basis.

The role of the teacher is changing also. Lecturing by the teacher is being reduced in favor of more pupil activities in a variety of study and work centers. The pupils are given time to follow their own interests and talents as creatively as possible. There is also a tendency to keep the schools open on a year-round basis for more efficient use of expensive facilities and equipment and so that vacation periods may be taken at a time chosen by a pupil and his parents.

Secondary Vocational Education

Aim

The goal of all vocational education is to reduce the flow of unskilled, ill-prepared youth into the labor market and to diminish the need for costly and often ineffective remedial programs.

The National Advisory Council on Vocational Education, appointed in 1968 by the President to evaluate and make policy recommendations to the U.S. Office of Education, stated that:

> Some type of formal occupational preparation must be a part of every educational experience. Though it may be well to delay final occupational choice until all the alternatives are known, no one ought to leave the educational system without a salable skill. In addition, given the rapidity of change and the competition from generally rising educational attainment, upgrading and remedial education opportunities are a continual necessity. Those who need occupational preparation most, both preventive and remedial, will be those least prepared to take advantage of it and most difficult to educate and train. Yet for them, particularly, equal rights do not mean equal opportunity. Far more important is the demonstration of equal result.
>
> The objective of vocational education should be the development of the individual, not the needs of the labor market. One of the functions of an economic system is to structure incentives in such a way that individuals will freely choose to accomplish the tasks which need to be done.

Preparation for employment should be flexible and capable of adapting the system to the individual's need rather than the reverse. The system for occupational preparation should apply a salable skill at any terminal point chosen by the individual, yet no doors should be closed to future progress and development.

The goal of vocational education in the United States has changed over the years to respond to the diverse educational and training needs of the college-bound and work-bound student; the untrained and underemployed youth and adult; and the hard-to-teach, disadvantaged, or handicapped student. The 1968 Vocational Education Amendments extended the definition of vocational education by encouraging total integration of the academic (college preparatory), general, and vocational curriculum, so that no person would be denied an opportunity to prepare for an occupation that suited his aptitudes, talents, and interests.

The law also authorized support for training in all occupations except those classified as professional by the U.S. Commissioner of Education and those requiring a baccalaureate or higher degree as basic preparation. Now vocational education prepares students in 90 percent or more of all occupations in which people work to provide the goods and services needed by society. Earlier vocational education legislation provided support for occupational preparation under the headings of agriculture, home economics, and trades and industries. Subsequent enactments expanded the scope to include distributive occupations, and much later added technical education. Now occupational training is not restricted to specific fields.

Programs

Instructional program.—Vocational education is usually organized in a planned sequence of classroom and laboratory experiences. Such instruction includes the study of underlying sciences and supporting mathematics inherent in the occupation as well as methods, skills, materials, and processes related to the work performance. To provide specialized vocational training, some large cities, particularly those that are industrial centers, often have specialized trade schools, e.g., schools for printing or aircraft trades. Rural or small school districts may together establish an area vocational school. Students receive their general academic education in their own high school and their specialized vocational study in the specialized trade school or area vocational school. Schools provide the necessary transportation. In some schools, however, the entire instructional program is provided in the area vocational school, and thus the student attends only this one school for both academic and specialized study.

Work experience opportunities (often called cooperative education) are available for vocational students in many high schools. Local business and industrial firms provide part-time employment for which students receive both school credit and pay. Arrangements are made to allow for a variety of work/school schedules, but most students attend several classes each day and work approximately 15 to 20 hours per week.

Teacher Education.—Education requirements for secondary school, vocational teachers are determined by each State. There are,

however, general patterns followed across the United States, variations of which may be used by individual States.

A graduate of a secondary or postsecondary school or an employed person may attend a higher education institution that offers teacher education, normally in a college or university department specializing in the field in which a teaching credential is desired. A typical 4-year course of study includes 30 to 45 semester credits in a subject area field, 18 to 24 semester credits in education courses (out of approximately 120 semester credit hours), and supervised teaching experience. Upon graduation, the potential teacher receives a baccalaureate degree and is recommended by the college for State certification. The State education agency examines the individual candidate's records and certifies the areas and levels in which he or she has qualification.

In vocational education, a common requirement for teacher certification is substantial business or industrial experience. In some specialty areas such as agriculture, business and office occupations, and home economics, teachers must complete a baccalaureate degree through preservice training at the university level. In other specialty areas, such as industrial or technical occupations, teachers are often recruited directly from the occupations in which they specialize and are trained in the art of teaching through inservice and extension programs.

Inservice training is often required of teachers in all specialty areas so that they may maintain and improve their specialized skills as industrial and technological changes occur. This inservice training may be provided by colleges either alone or with business or industrial support.

Although in recent years the supply of teachers in many subject areas has far exceeded the demand, there is a shortage of vocational teachers, particularly in the health, distributive (marketing), and trade and industrial occupations. To overcome shortages in these areas, there must be more emphasis both on completion of vocational teacher education courses in approved teacher education institutions and also on direct recruitment from the business and industrial labor market. Particularly in trade and industrial occupations, recruitment has been effective: a skilled craftsman is offered courses in teaching methods so that he can qualify for a teaching certificate through an inservice program; or, frequently, he is given a provisional certificate and employed as a teacher while earning his full teacher certification.

Although the vocational education enrollment almost doubled from 1965 to 1972, only 32 percent of the total public secondary school students are reported enrolled in the vocational education curriculum.

There has been an increase in the number of high schools that offer at least one vocational program. In fall 1966, 52 percent of the secondary schools offered vocational education; by 1971, the percentage had risen to 69 percent.

Preliminary 1972 data indicated that 76 percent of vocation graduates are employed full time in the field in which trained, 16 percent are employed full time in other or

related fields, and 8 percent are unemployed. Data are not available for high school dropouts or graduates from general or college placement courses who do not attend higher educational institutions. Unemployment in the 16 to 19 age group was reported at 16.9 percent in 1971.

Concerns

Education is undergoing a major transition as a result of—

- Social pressures for equal employment opportunities.
- Demand for greater accountability in the use of educational dollars.
- An increased need for vocationally qualified workers.
- Greater utilization of sophisticated technologies.

Some of the current problems facing vocational education are the need to (1) increase youth guidance, (2) reduce discrimination, (3) and coordinate vocational education with manpower needs.

Career guidance.—Vocational secondary education is made more relevant to employment for the student by specialized personnel who provide counseling and guidance services, which usually include aptitude and interest tests, compilation of cumulative school records, counseling for advanced education or additional vocational training, and assistance with appropriate educational institution or job placement.

The guidance system seeks to—

1. Assist students in deciding the type of vocation they desire to enter and for which they should prepare, and provide information on job opportunities in the various fields.

2. Help students, directly and through their parents and teachers, to achieve educational and occupational development commensurate with their abilities, aptitudes, interests, and opportunities.

3. Provide services in securing appropriate employment during and upon completion of the educational program.

4. Offer individual counseling and group activities as necessary to orient students and their parents to career opportunities and requirements.

Facts and Figures

Recent and projected public school enrollments in vocational secondary education and total public secondary education are as follows:

	1965	1972*	1976 (est.)
Vocational secondary	2,819,000	4,477,000	6,270,000
Total secondary	11,610,000	14,000,000	14,700,000

* Estimated from prior year base.

The Career Education Concept

Chapter 1 briefly described a new concept to which considerable energy is presently being devoted—career education. Dedicated to increasing the relevance of school by focusing on the learner's career choice, this concept aims to prepare students for a suc-

cessful life of work by increasing their options for occupational choice, by eliminating barriers to attaining job skills, and by enhancing learning achievement in all subject areas and at all levels of education.

Aim

Each year more than 2.5 million young people leave formal education as high school graduates or dropouts without adequate preparation for careers. In addition, although complete statistics are not available, it appears that many mature adults find themselves pursuing careers they do not like or in which they are not likely to succeed because career orientation and preparation programs were not available when they advanced through the school and college system 10 or 20 years ago. The career education movement is one corrective action that is now evolving.

The basic premise of career education is that each individual should be started early to make the most of life. This idea goes back at least to the time of Plato, who said, "the direction in which education starts a man will determine his future life." The concept takes on new urgency, however, as the United States moves into the 1970's with a highly technical and structured economy and a society that is increasingly conscious of the need to give every citizen an equal chance to strive for success.

Career education requires development of an educational system directed at maintaining the academic excellence now present and concurrently overcoming two major faults in the present system: The lack of occupational relevance and the undesirable distinctions that exist between the academic and vocational curriculums. Such an educational system may be achieved by infusing—in a total, systematic, and relevant way—the reality of careers into the educational experience.

In a career education program, the student is first helped to develop a very broad awareness of the entire range of careers in which he may engage in a lifetime. A broad curriculum is designed to produce the range of skills, knowledge, and understanding essential for maximizing the individual's potential, both to perform and to realize a satisfying measure of self-fulfillment. Through orientation to the world of careers in the elementary school years, exploration in the middle years, and preparation in the secondary and postsecondary years, career education makes the entire curriculum more meaningful and relevant to the aspirations of students and increases individual learning and earning options. Its programs include all students and all occupations and professions.

Development

Career education gained national focus and Federal support in 1971 when Sidney P. Marland, Jr., then U.S. Commissioner of Education, presented the general outlines of a national career education theme before the National Association of Secondary School Principals and the Council of Chief State School Officers. The concept found favor with both groups, and a sense of its timeliness rapidly emerged among lay, education, and business leaders. The President, the U.S. Congress, the U.S. Chamber of Commerce,

and, with some qualifications, the educational leadership of organized labor endorsed the concept. Implementation began.

Implementation

In 1971, the Office of Education's research and development programs were reoriented to focus upon planning and designing alternative approaches to elementary and secondary schooling. Four career education "models" were initiated for design and feasibility study—the school-based, the employer-based, the home/community-based, and the rural/residential models. Their respective purposes are (1) to revitalize education in the schools, (2) to establish an employer-based educational structure for students aged 13 to 18 as an alternative to their school environment, (3) to offer a career-oriented educational program in the home and community to out-of-school youths and adults, and (4) to provide career education and supportive services to the rural disadvantaged.

The school-based model.—At the grade school level, the child learns about a wide range of jobs and their requirements. In junior high, he studies specific occupational "clusters," such as environment, communications and media, marine science occupations, and personal services occupations. These are among the 15 clusters, representing the 23,000 careers America offers, for which the Office of Education has detailed schemata through work experiences, observation, and classwork. By senior high, the youth is well along toward specialization, narrowing and deepening his study and training, and acquiring specific job skills. Experimental models have been installed in the public school system in each of the following cities: Mesa, Ariz.; Los Angeles, Calif.; Jefferson City, Colo.; Atlanta, Ga.; Pontiac, Mich.; and Hackensack, N.J.

The employer-based model.—A consortium of public and private employers, unions, community groups, and public agencies has been formed to provide unmotivated students, aged 13 through 18, with "significant alternatives" to current schools. These alternatives combine vocational training, education in academic fundamentals, and work experience selected for career development possibilities. Enrollment is open year round and youngsters move at their own pace. This model is being developed at five sites: Charleston, W. Va.; Portland, Oreg.; Oakland, Calif.; Philadelphia, Pa.; and New York, N.Y.

The home-based model.—Learning opportunities are provided for young adults (18 through 25) and older persons who have left formal schooling. These persons presumably increase their employability by learning at home through modern technology—TV and radio, audiovisual tape cassettes, and some printed materials. Research and development for the home-based model is occurring at Providence, R.I.

The rural/residential model.—Families come to the training site so that each family member can develop an appropriate career role, through employment, study, home management, or a combination of these. The former U.S. Air Force Base at Glasgow, Mont., is the site for this model.

Curriculum development.—Contracts or grants have been awarded by the U.S. Office of Education to some of the Nation's top curriculum specialists to develop curriculum units for high school instructional programs in 5 of the 15 career clusters used in the school-based model. The five now being developed are construction, manufacturing, transportation, public service, and communications and media. Additional curriculum development will be undertaken in the remaining cluster areas as funds become available. Pilot testing of these curriculum units is scheduled for school year 1973–74.

Local educational agencies have already made some promising starts in using curriculums designed from the career education concept. Limited Federal resources were made available for this purpose.

Other implementation.—The National Institute of Education of the Education Division (U.S. Department of Health, Education, and Welfare) is continuing major research and development efforts in career education. Other agencies are also active in furthering this movement. For example, the Office of Education, in cooperation with the National Aeronautics and Space Agency, plans to use an experimental satellite over the Rocky Mountains in April 1974 to test satellites as television relays in remote areas. The satellite will test the feasibility of bringing education programs embodying career education concepts into homes and schools on Indian reservations and in other remote communities. With Office of Education support, a career awareness program is being developed for this TV transmission. The satellite will carry four audio bands so that the one TV transmission can bring in one visual picture with narration in four languages, such as Navajo, Hopi, Spanish, and English.

Career education is already reaching many children. More than 750,000 children are already participating in over 100 career education pilot projects in every State and other political subdivision. Started in 1970, these projects under the 1963 Vocational Education Act predate development of the career education concept but were later brought under it. The practical experience gained in them helped to conceptualize the school-based model.

Support for the Federal initiative in career education has come from many State and local school districts. For example, the legislatures of Arizona, Florida, and North Carolina are each putting up $3 million a year to help school districts convert to career education. Wyoming and Georgia are also heavily committed. And the city of Dallas, Tex., is restructuring its school system to include career education at every grade level.

Unfolding changes of the type indicated in the previous examples, as they make the concept of career education into a reality, are expected to influence public secondary education in a dramatic way, both in the immediate future and for many years to come.

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Appendix B—Highlights of the Education Amendments of 1972 [1]

HIGHER EDUCATION

Community Service and Continuing Education Programs

—Title I of the Higher Education Act is extended through fiscal year 1975. The conference agreement authorizes an appropriation of $10 million for FY 72, $30 million for FY 73, $40 million for FY 74, and $50 million for FY 75. The Commissioner is authorized to reserve up to 10 percent of the appropriation for grants and contracts covering up to 90 percent of the cost of special programs and projects designed to seek solutions to national and regional problems relating to technological and social changes and environmental pollution. The National Advisory Council on Extension and Continuing Education is required to evaluate title I programs and projects carried out prior to July 1, 1973, with a view toward ascertaining which of them show the greatest promise and the greatest return for the resources devoted to them.

College Library Programs

—For FY 71, $18 million is authorized for Part A and $12 million for Part B. Authorizations for Parts A (college library resources) and B (research and training) of Title II of HEA '65 are combined beginning in FY 73, with 70 percent of the appropriations earmarked for Part A and 30 percent for Part B. Amounts authorized to be appropriated are $75 million for FY 73, $85 million for FY 74, and $100 million for FY 75. The amount available under Part A must be used first to satisfy all basic grants up to $5,000, and then any remainder is to be used for supplemental grants; and up to 25 percent may be reserved by the Commissioner for special purpose grants. The maximum amount of supplemental grants is increased as of FY 73 from the existing maximum of $10 to a maximum of $20 for each full-time student or equivalent number of part-time students. The appropriations authorized for Part C (Library of Congress acquisition and cataloguing) are $9 million for FY 72, $12 million for FY 73, $15 million for FY 74, and $9 million for FY 75.

Strengthening Developing Institutions

—Title III of HEA is extended for three fiscal years—the authorization levels are $91 million for FY 72 and $120 million for each of the three succeeding fiscal years. Waiver of the five-year existence requirement for eligibility is authorized for institutions located on or near Indian reservations. The stipend ceiling for National Teaching Fellows is increased from $6,500 to $7,500. Developing institutions are given preferential treatment with respect to Titles II, IV, VI and VII of HEA of '65 by allowing a waiver of the non-Federal share requirement.

[1] Public Law 92–318, June 23, 1972.

Emergency Assistance for Institutions of Higher Education

—$40 million is authorized for the period from the date of enactment through fiscal year 1974 for a new program of interim emergency assistance. Institutions of higher education in serious financial distress and in need of additional assistance either 1) to continue operation of the institution or 2) to prevent substantial curtailment of academic programs to the detriment of the quality of education available to students are eligible for these funds.

Student Assistance: Basic Educational Opportunity Grants

—Such sums as may be necessary are authorized through FY 75 for a new program of basic educational opportunity grants for all students, not just those of exceptional need. Such grants cannot exceed 50 percent of the actual cost of attendance at an institution and cannot be more than $1,400 per student per year minus the student's expected family contribution. Basic grants cannot exceed the difference between the family contribution and the actual cost of attendance at the institution. In the event appropriations are insufficient to meet full entitlement, then basic grants cannot exceed 1/2 the student's actual need, unless the appropriation amounts to 75 percent or more of full entitlement, in which case the grant cannot exceed 60 percent of the student's actual need. For less than full-time students, the basic educational opportunity grant is proportionately reduced. Appropriations for the Basic Educational Opportunity Grants will not be made until funding of present student aid programs reach the following minimum levels each year: the current Educational Opportunity Grant program-$130 million; College Work-Study Program-$237 million; NDEA Student Loans-$286 million.

—Benefits of new and existing student aid programs are extended to part-time students as well as to those at accredited vocational and proprietary schools. Students must sign affadavits promising to use student aid funds only for college expenses.

Student Assistance: Supplemental Education Opportunity Grants

—The present EOG program with some amendments is continued through FY 75 as a supplement to the new basic grant program. The ceiling for supplemental grants is raised from $1,000 to $1,500, with the provision that no student receive more than $4,000 in EOG funds during his undergraduate years. Grant funds continue to be appropriated among the States according to the relative numbers of students in the State, with a provision making 10 percent of the funds available to the Commissioner for discretionary allotment.

Student Assistance: State Student Incentive Grants

—A new program of Federal matching grants to the States is established as an

incentive to States to increase their appropriations for student grants based on need. $50 million is authorized for each year from FY 73 through FY 75, plus such sums as may be necessary for continuation grants.

Student Assistance: Special Program for Students from Disadvantaged Backgrounds

—While retaining separate identities, Upward Bound, Talent Search, and Special Services for Disadvantaged Students are consolidated in a comprehensive program designed to assist students from disadvantaged backgrounds enter, continue, or resume a program of postsecondary education. Authorizations for these programs are: $96 million for FY 72, $100 million for each of the next three succeeding fiscal years.

Student Assistance: Insured Student Loans

—This program is extended and the amount of new loans which may qualify for Federal loan insurance are as follows: $1.4 billion for FY 72; $1.6 billion for FY 73; $1.8 billion for FY 74; $2 billion for FY 75. The total amount a student may borrow is increased from $1,500 per year to $2,500, with total limits of $7,500 for undergraduates and a total of $10,000 for graduate students (including undergraduate loans). Educational institutions are required to determine students' needs and recommend to lenders the amount of the subsidized loans a student may receive. The Emergency Insured Student Loan Act of 1969 is extended through FY 74.

Student Assistance: Student Loan Marketing Association

—A Government sponsored private corporation, the Student Loan Marketing Association, is established to serve as a secondary market and warehousing facility for insured student loans. The Association will have a 21-member Board of Directors and is authorized to make advances on the security of, purchase, service, sell, or otherwise deal in, insured student loans.

Student Assistance: College Work Study Program

—This program is extended through FY 75 with some minor changes. Preference for participation is modified so as to include students "with the greatest financial need". A new section is added authorizing work-study for community service learning programs. Vietnam-era veterans will be given preference for these special work-study programs.

Student Assistance: Cooperative Education

—This program is extended through FY 75 and the research and training provision is expanded to authorize support for "projects demonstrating or explaining the feasibility or value of innovative methods of cooperative education".

Student Assistance: Direct Loans

—The NDEA (Title II) program of low interest student loans is extended by

amending Title IV of the Higher Education Act of 1965. $400 million is authorized for FY 72 through FY 75. The loan limitation is modified by allowing $10,000 aggregate for graduate students and $5,000 for any other student.

Financing Postsecondary Education

—The National Commission on the Financing of Postsecondary Education is established to assess the dimensions and extent of the financial crisis confronting higher education. The Commission is to report to Congress by April 30, 1973, on the results of their study, including recommendations for national uniform standards for determining the annual per student costs of providing postsecondary education for students in all types and classes of institutions. Within 60 days the Commissioner is to report to Congress on the Commission's suggestions. The Commission will be composed of two Senators of different political parties, two Representatives of different political parties, and up to 13 members representing the educational and financial communities and related government agencies.

Education Professions Development

—Appropriations authorized are $200 million for FY 73, $300 million for FY 74, and $450 million for FY 75 for activities including the Teacher Corps. The program of attracting and qualifying teachers to meet critical teacher shortages is amended by authorizing grant programs involving tutors and instructional assistants. Authorization is provided for programs or projects (including cooperative arrangements or consortia between institutions of higher education and State or local education agencies) for the improvement of undergraduate programs for preparing educational personnel.

Instructional Equipment

—Title VI of the Higher Education Act is extended through fiscal year 1975 at the fiscal year 1971 authorization level.

Academic Facilities

—The Higher Education Facilities Act is transferred to the Higher Education Act by creating a new Title VII—"Construction of Academic Facilities." The substance of Higher Education Facilities Act is continued with some amendments. Twenty-four percent of undergraduate facilities grants are earmarked for junior colleges. The required non-Federal share for loans for the construction of academic facilities is reduced from 25 percent to 20 percent. A new authority is included for Federal insurance of academic facilities loans obtained by nonprofit private institutions of higher education. The aggregate amount of annual interest grants which may be paid is increased by $13 million in FY 72 and in each of the three succeeding fiscal years.

Networks for Knowledge

—The program is extended through fiscal year 1975. The statement of purpose and

authority governing "Networks for Knowledge" is somewhat revised and eligibility is extended to law and graduate schools.

Graduate Programs and Fellowships

—A new Title IX—Graduate Programs—of the Higher Education Act is provided. Part A authorizes a program of grants to institutions of higher education similar to Title X—Improvement of Graduate Programs and Title IX—Public Service Education, of existing law. Part B authorizes 7,500 graduate fellowships for study in programs that lead to teaching positions in institutions of higher education. Part C authorizes fellowships for graduate or professional study for persons who plan to pursue a career in public service. Part D authorizes a new program of fellowships for advanced study in domestic mining, mineral and fuel conservation and authorizes fellowships for persons from disadvantaged backgrounds who are undertaking graduate or professional study. Title VI of National Defense Education Act is extended, placing increased emphasis on undergraduate education in language and area studies and modifying the center approach to include a more program-oriented concept of language and area studies. The International Education Act is extended without amendment through fiscal year 1975.

Clinical Experience in Law

—$20 million is authorized through 1975 for grants and contracts to law schools for clinical training programs for their students.

COMMUNITY COLLEGES AND OCCUPATIONAL EDUCATION

Community Colleges

—State advisory councils on Community Colleges are to be established to make recommendations to the State Commissions on statewide plans for the expansion and improvement of postsecondary education programs in community colleges. Three types of grants are authorized: (1) establishment grants to new community colleges to assist in their planning, developing, and establishment; (2) expansion grants to existing community colleges to expand enrollment, establish new campuses, and expand and modify educational programs; (3) leasing grants to enable community colleges in connection with their establishment or expansion to lease facilities. For the purposes of this program, the definition of community college includes four year institutions or branches thereof which provide two-year postsecondary educational programs. Appropriations of $50 million for FY 73, $75 million for FY 74 and $150 million for FY 75 were authorized. A Community College Unit is established to coordinate all programs in the Office of Education affecting junior colleges.

Occupational Education

—A new program of grants is created to assist the States to design, establish and

conduct programs of postsecondary occupational education. Appropriations are authorized in the amount of $100 million for FY 73, $250 million for FY 74 and $500 million for FY 75. A Bureau of Occupational and Adult Education is established and is responsible for all adult, vocational, and occupational education, and manpower training programs within the Office of Education.

Postsecondary Education Commission and Comprehensive Planning

—States which wish to receive grants for comprehensive planning or for community colleges and occupational education programs provided under the newly created Title X of the Higher Education Act must establish a State Commission or designate an existing agency or Commission as the "State Commission." Grants to State Commissions are authorized to enable them to undertake comprehensive planning for statewide postsecondary education systems to ensure that all persons within a State have an opportunity for postsecondary education.

Vocational Education

—The Vocational Education Act of 1963 is extended through FY 75 and amended to authorize special vocational education programs for the disadvantaged. The definition of vocational education is amended to include training for volunteer firemen and to include industrial arts programs. Provisions for exemplary programs and projects, residential vocational schools, consumer and homemaking education, cooperative vocational education, curriculum development and the National Advisory Council on Vocational Education are all continued.

New Education Programs and Provisions Relating to the Administration of Educational Programs

Education Division

—An Education Division is established within HEW and is composed of the Office of Education and the National Institute of Education. The head of the Division has the title of Assistant Secretary for Education.

Support for Improvement of Postsecondary Education

—The Secretary of HEW is authorized to award grants and contracts to institutions of higher education and other public and private education institutions and agencies to improve postsecondary education. The new grant authority will provide assistance for a broad range of reform, innovation and improvement activities as well as the creation of new institutions and programs. State Commissions are required to provide comments and recommendations to the Secretary regarding applications submitted from their State. There is authorized to be appropriated $10 million for FY 73, $50 million for FY 74, and $75

million for FY 75 to carry out the purposes of this new program.

National Institute of Education

—A National Institute of Education is created to provide Federal Government leadership in the conduct and support of scientific inquiry into the educational process. NIE's function includes building an effective educational research and demonstration system and strengthening the scientific and technological foundations of education. Dissemination and utilization functions are another major responsibility of NIE. The National Center for Educational Communication is transferred from OE to NIE. $550 million in the aggregate for use during fiscal year 1973, 1974, and 1975 is authorized to be appropriated.

Cooperative Research Act

—The Cooperative Research Act is amended and extended through June 30, 1975. Authorizations are $58 million for FY 73, $68 million for FY 74 and $78 million for FY 75.

General Education Provisions Act

—An amendment to the General Education Provisions Act prohibits unauthorized program consolidation and unauthorized limitations on the use of appropriations. This modification is designed to make clear that OE cannot as a matter of general policy make the approval of applications under one program dependent on the approval of applications under another program. Packaging or consolidation of applications for grants and contracts is permitted if such procedure is for the purpose of attaining simplicity or effectiveness of administration.

Indian Education

—A new title is added to Public Law 81–874 to provide financial assistance to local educational agencies for elementary and secondary education programs to meet the special educational needs of Indian children. Grants are also authorized for projects testing the effectiveness of programs for improving Indian educational opportunities, programs to provide services not available to Indian children and training programs for educational personnel. A bureau level Office of Indian Education is established in OE and a National Advisory Council on Indian Education is created.

Administration of OE Programs and Projects

—A new subsection is added to General Education Provisions Act setting forth a series of requirements relating to program administration, fiscal control fund accounting and reporting which are applicable with respect to any application under any program to which the Commissioner determines the new subsection should apply.

Title III, National Defense Education Act

—The program of providing financial assistance for strengthening instruction in

science, mathematics, modern foreign languages, and other critical subjects is extended through FY 75 at the current authorization level.

Study and Report on Rules and Regulations

—The Commissioner is required to conduct a study of all rules, regulations, guide lines, etc., affecting administration of any program to which the General Education Provisions Act applies and to report the results of such study no later than one year after enactment of this act to the Committee on Labor and Public Welfare and the Committee on Education and Labor.

Ethnic Heritage Programs

—A new Title IX is added to ESEA of 1965, authorizing $10 million for FY 72 and $15 million for FY 73 for project grants to encourage and promote activities related to ethnic heritage studies and for development and dissemination of related curriculum materials. A National Advisory Council on Ethnic Heritage Studies is established to advise and assist in the coordination of this program.

Consumers' Education

—Title VIII of ESEA is amended by adding a new section which (1) provides for a Director of Consumers' Education to coordinate consumers' education activities and administer a consumers' education program in OE and (2) authorizes grants to and contracts with institutions of higher education, State and local education agencies, and public and private organizations to support research, demonstration and pilot projects designed to provide consumer education to the public. For these purposes, $20 million is authorized for FY 73, $25 million for FY 74 and $35 million for FY 75.

The College of Virgin Islands and the University of Guam

—Endowment grants of $3 million each for the College of Virgin Islands and the University of Guam are authorized and the institutions are accorded land grant status for the purpose of annual appropriations.

Migratory Children

—Title I, ESEA, is amended to include preschool programs especially for migrant children, provided that funds for the operation of such programs will not detract from other programs already authorized. The Commissioner of Education is required to conduct a study of the operation of title I, ESEA, with respect to the education of migrant children and to report the results of such study.

Youth Camp Safety

—The Secretary of HEW is required to report by March 1, 1973, to the Congress on existing conditions in youth camps and the need for Federal standards.

Emergency School Aid

—The major purposes of this title are to provide financial assistance to local school districts to: (a) meet special problems incident to desegregation; (b) encourage voluntary integration; and (c) aid school children in overcoming the educational disadvantages of minority group isolation. Authority for the administration of this program is vested in the newly created Assistant Secretary of HEW for Education.

An appropriation of $1 billion is authorized for FY 73 with the same amount approved for FY 74. Four percent of the total appropriation is reserved for bilingual education programs, 6 percent for special programs and for evaluation, 3 percent for educational television, 5 percent for metropolitan area parks and 8 percent for private groups. Further, not more than 15 percent of the total appropriation is reserved for compensatory education programs and is to be apportioned among the States. Remaining funds are to be apportioned among the States by allotting each State $75,000 plus an amount based upon its relative number of minority group children, each State being guaranteed a minimum of $100,000.

There are four broad categories of eligibility for grants: (1) school districts ordered to desegregate (whether by courts, by DHEW, or by State agencies); (2) school districts voluntarily integrating all their schools; (3) school districts voluntarily integrating some of their schools or preventing some from becoming segregated and; (4) schools enrolling and educating children who would not otherwise be eligible for enrollment because of nonresidence. Once a school district has been determined to be eligible for grants under these categories, it may then receive funds to implement plans for a number of programs.

Funds would be provided for the following activities:

1. new curricula and instructional methods to support a program of integrated instruction, including instruction in language and cultural heritage of minority groups
2. remedial services
3. guidance and counseling services designed to promote mutual understanding between minority groups and nonminority groups, parents, students and teachers
4. administrative and auxiliary services
5. community activities
6. recruiting, hiring and training teacher aides, with preference given to parents
7. inservice teacher training
8. planning, evaluation and dissemination of information
9. minor alteration and remodeling

Metropolitan area projects include inter-district projects, Standard Metropolitan Statistical Area planning, and educa-

tion parks. With regard to the Education parks, funds can be allocated for joint development by cities and suburbs of plans "to reduce and eliminate minority group isolation." Funds for planning and construction of "integrated education parks" providing education from the 7th through 12th grades will be available.

In determining whether to approve an application the Assistant Secretary is limited to considering six specific criteria which include the districts' need for assistance and the degree to which the program to be funded is likely to effect a decrease in racial isolation. Applicants are required to provide assurances that they will comply with the plans upon which their eligibility is determined.

A National Advisory Council on Equality of Educational Opportunity is established, consisting of 15 members, at least one half of whom shall be representatives of minority groups, appointed by the President. The Council will advise the Assistant Secretary with respect to the operation of the Emergency School Aid program and review the program with respect to its effectiveness in achieving its purpose.

Transportation of Students

—The major provisions of S. 659 with regard to the assignment or transportation of students are as follows:

(1) The effectiveness of Court decisions ordering busing to achieve racial balance is postponed until all judicial appeals have been exhausted or until January 1, 1974.

(2) The use of Federal funds for busing is prohibited except on the express written, voluntary request of appropriate local school officials. In no event will funds be made available for busing when the time or distance of travel is so great as to risk children's health or impinge upon the educational process or where the school to which students will be transported is inferior to that to which they would otherwise be assigned.

(3) Federal officials are prohibited from using rules, regulations, orders, guide lines, or otherwise, to require any local education agency to use State or local funds for purposes for which Federal funds cannot be used.

Higher Education

Sex Discrimination

—Sex bias in regard to admissions to institutions of vocational education, professional education and graduate higher education, and to public institutions of undergraduate higher education is prohibited. The undergraduate admissions of private colleges are exempted. Also exempted are institutions controlled by a religious organization, if the ban would not be consistent with religious beliefs, and public under-

graduate institutions that traditionally and continually from their establishment have had a policy of admitting students of only one sex. Institutions in the process of adopting coeducation would be given a transition period to comply with the anti-discrimination ban.

Institutional Aid

—A new program of aid to institutions is authorized. Aid would be distributed to colleges according to a three-part formula:

First, 45 percent of the funds appropriated for institutional aid would be distributed according to the total amount of educational opportunity grants, work-study, and National Defense loans paid to students at each college. Under this section, a college enrolling fewer than 1,000 students would receive 50 percent of the total student aid its students received from the three programs. A college enrolling between 1,000 and 3,000 would get 46 percent; one enrolling between 3,000 and 10,000 would get 42 percent; and one enrolling over 10,000 students would get 38 percent.

The *second* section of the formula would distribute another 45 percent of the institutional aid according to the number of students at each institution receiving aid under a new program of basic educational opportunity grants. Under this section, a college enrolling fewer than 1,000 students would get $500 for each basic grant recipient. A college enrolling between 1,000 and 2,500 students would get $500 for each of its first 100 recipients and $400 for each one after that. A college with between 2,500 and 5,000 students would get $500 for each of its first 100 recipients; $400 for each of its next 150 recipients; and $300 for each of the rest. A college with between 5,000 and 10,000 students would get the same amount as those above, but it would receive only $200 for each recipient of a basic grant over 500; a college with more than 10,000 students would get similar amounts, but only $100 for each recipient over 1,000.

The *third* section of the institutional aid formula specifies that 10 percent of the aid funds would be based on the number of graduate students enrolled at each institution—allowing a payment of $200 per student.

The portion of institutional aid to be based on a college's basic grant recipients would not be paid unless Congress financed the basic grant program at a level that would allow at least 50 percent of the need for basic grants to be met. If only 50 percent of the full amount needed for basic grants is appropriated, the 50 percent of the institutional aid tied to basic grants may be paid; if 60 percent of the need for basic grants is met, 60 percent of the institutional aid portion may be paid, etc. If not enough money is appropriated to meet all demands for institutional aid,

the amount paid to each college will be prorated.

Payments for Veterans

—Payments of $300 to an institution for each veteran attending the college, plus $150 for each veteran enrolled in a special or remedial program at the college are authorized. To get the payments, a college must increase its enrollment of veterans 10 percent over the previous academic year and must use 50 percent of the payments for recruitment and education programs for veterans.

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